The Veterinary Record

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 30. JULY 29, 1933. Vol. XIII.

THE SAVING IN SUFFERING OF MAN AND ANIMALS DUE TO MEDICAL AND VETERINARY RESEARCHES, WITH SPECIAL REFERENCE TO THE TROPICS*

SIR LEONARD ROGERS, K.C.S.I., M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S.

The Research Defence Society was founded in 1908 to continue the work of Professor Starling's Committee, formed in 1906, at a meeting of the representatives of 60 to 70 scientific and medical societies, to organise the evidence of the scientists regarding the value of experiments on animals given before the Royal Commission of 1906-8. That Commission inquired into 30 years' working of the Humane Act of 1876, and in endorsing the verdict of the 1875 Royal Commission they reported that experiments on animals have resulted in "useful methods for the prevention, cure and treatment of certain diseases" through which "suffering has been diminished in man and the lower animals" and that such experiments "are morally justifiable and should not be prohibited by legislation." Further, the Home Secretary's orders provide to this day that "If any animal at any time during any of the said experiments, is found to be suffering severe pain that is likely to endure, such animal shall forthwith be painlessly killed."

In spite of all this the wasteful agitation to stop all experiments on animals continues unabated, and this necessitates our Society maintaining its work of defending our medical scientists from misrepresentation and abuse.

That the sufferings of animals, as well as of man, have been immensely reduced through experiments on animals may safely be said to be the universal opinion of all the scientists who are best qualified to judge at the present day. What eminent mid-Victorians, still quoted, for want of anything better by our opponents, said, some half-a-century ago has, of course, no application to present day scientific knowledge. It follows that if our opponents had succeeded in their long sustained efforts to prevent those experiments they would have been guilty of the most appalling and wholesale cruelty to the animals they profess to love, as well as to mankind.

As practically the whole physiological, pathological, bacteriological and therapeutic scientific basis of modern medicine is built up on knowledge largely acquired through experiments on animals, it would require a complete medical library to expound it. The saving of life and suffering due to physiological and therapeutic experimental research has been dealt with by recent Stephen Paget lecturers, but in no field have they been exceeded in value by those obtained in about three decades alone, in tropical diseases of man and of animals, of which I propose to give a brief account to-day as far as time permits.

Snake-Bite.—This is one of the most terrible of deaths, owing to the rapidity with which healthy people are carried off, and all our most essential knowledge of the action, antidotes and treatment are due to animal experiments. Nearly 50 years ago Sir Lauder Brunton showed the lethal action of cobra venom to be due to paralysis of respiration, and later Calmette in France made an anti-cobra serum which can neutralise the venom in the system, and save life if given in time, and sera for viperine venoms have since been made in India and elsewhere. It was also known that permanganate of potash mixed with the venom of any snake renders it inert, and Sir Lauder invented a small sheathed lancet with a compartment for permanganate, to be carried in the waistcoat pocket when out shooting, etc., for immediate use in the absence of serums, by incising the site of the bite, and destroying the venom locally before a fatal dose had been absorbed. It happened that the passage of the 1876 Act prevented Sir Lauder testing its practical value on animals, and it was consequently not until 1903, at his suggestion, that I demonstrated its value by a few experiments, as recorded in my evidence before the Royal Commission in 1907, with the result that within two years I was able to record 12 cases of persons proved to have been bitten by deadly snakes with no less than ten recoveries. Acton and Knowles later confirmed the value of permanganate locally in snake poisoning, but they prefer injecting solutions of the chemical when a syringe is available. Now no one will ever know how many persons were unnecessarily condemned to die of snake bite through the success of the opponents of animal experiments in postponing those few tests, to carry out which I had to get the

* Stephen Paget Memorial Lecture, given to the Research Defence Society, at the London School of Hygiene and Tropical Medicine, June 22nd, 1933.

DEPT. OF VET. MEDICINE

recommendations of the Presidents of the Royal Society and the Royal College of Surgeons, so stringent are the conditions of the 1876 Act, under which alone an animal is allowed to recover from an anæsthetic after the smallest cutting procedure.

And what was the suffering inflicted in those few experiments, for here surely a grain of fact is worth an ocean of ill-informed rhetoric? The few cats which were permitted to come round from the chloroform were kept free in a room and visited from 7.30 a.m. to 10 p.m. Their small wounds were, of course, dressed antiseptically, the animals jumped up and down off boxes and shelves on their three sound limbs and showed no evidence of pain, and the only trouble I had was that several of them would come up to me at the same time to have their heads rubbed! Yet, as the direct result of those few almost painless experiments, many human beings have been saved every year since, and will continue to be saved as long as civilisation lasts, from one of the most terrible of deaths.

Now, I am a cat lover and would not willingly have hurt one of them, but that I love my fellow beings more. Or, as Lister so well expressed the feelings of experimental scientists, in his courageous letter refusing to comply with the request of Queen Victoria that he should publicly oppose experiments on animals, in which, after stating that his own work for the good of his fellow men was due more to experiments on animals than to anything else, he added: " When they have been performed without chloroform, as has not infrequently been the case, they have been done at a very great sacrifice of my own feelings; but the greatness of the object in view has appeared to me to over-ride such considerations."

Cholera.—This, the most serious epidemic disease in India, carries off with great rapidity about a quarter-of-a-million people a year, and during last century at least six pandemics spread to Europe and America; a grave danger that experimental bacteriology has largely removed. This disease provides a good example of the way in which experimental research has furnished the scientific basis for the successful control of an epidemic disease, which in pre-bacteriological days was held by high authorities to be air-borne, and so uncontrollable. Unfortunately, owing to lack of good water supply and conservancy for the million Indian villages, we are largely dependent on preventive inoculation and treatment for the control of the deadly cholera.

Improved Treatment of Cholera.—The table [shown on the screen] reveals how the case mortality in Calcutta hospital patients has been reduced from 59 per cent. in 1895-1905 to only 20·8 per cent. in 1,429 cases in 1915-19, or about one-third of the former rate, by the use of intravenous injections of hypertonic and alkaline salines and permanganate pills, orally as the result of 14 years' patient investigations, mainly on the blood changes in the disease. The saline injections are based on physiological methods, and so are indirectly due to early physiological experiments. The clue to the use of permanganates was furnished by the snake venom work already dealt with, for chemically bacterial toxins and snake venoms are closely allied. I was able to show by a few simple experiments on pigeons that small quantities of permanganate will neutralise the toxins of the cholera bacillus, and clinical trials of permanganate pills orally proved capable of reducing the mortality in the villages to a considerable extent, under conditions not allowing of the intravenous saline method.

Anti-Cholera Inoculation.—Prevention is, however, better than cure, and this table [exhibited] shows examples of the use of anti-cholera inoculation in a total of over half-a-million people, with a reduction in the mortality among the inoculated, as compared with that in the uninoculated in the same outbreaks of cholera, of from 92 to 99 per cent. in six of the seven trials of the double injection. During an outbreak recorded by Dr. Bentley in North Bengal, in a large village, with about equal numbers of Hindus and Mahomedans, at first only the Hindus would be inoculated, and in a few days cholera only continued to occur among the uninoculated Mahomedans, whose males only were then inoculated, and very shortly only the uninoculated Mahomedan females were attacked, until they too received the protective doses, when the plague ceased.

A single dose of the present improved vaccines afford very valuable protection, and two million doses were used in Bengal alone in 1898. It is now being used to protect pilgrims returning to uninfected areas, such as the Central Provinces, from infected pilgrimages, with promising results, and also to immunise all pilgrims going from the East to Mecca, so as to lessen or abolish the spread of cholera to Europe. In short, experimental research has placed in our hands both the means to check the spread and to treat effectually sufferers from cholera; although here, as in so many other instances, reaping the full benefits of such research is lamentably retarded, for lack of education and of the funds and number of medical men required to bring these benefits within the reach of the general population of poor and backward countries.

The Reduction of Smallpox in India due to Vaccination in the Absence of any Material Sanitary Improvements.—The death-dealing virulent type of smallpox is now more prevalent in India than elsewhere, so it is mainly a tropical disease. Fortunately the uneducated

Indian villager is wise enough to know the protective value of vaccination, and he flies to telegraph for the vaccinator when the disease appears in his village. Nor is the apathy in this country in the matter surprising, because the present generation of our people are fortunate enough not to know what virulent smallpox is like, as we now only have a few cases of the very mild American form, thanks to the prompt discovery and vaccination or re-vaccination of all the contacts of the few virulent cases of smallpox that have been imported into Great Britain from India on at least three occasions in the last decade or so.

The chart [exhibited] shows you the yearly death rates per mille from smallpox in all India for five decades. From this you will see the great reduction in the severity of the outbreaks, from 2·1 per mille population in 1869 to a maximum of 0·8 per mille in recent years, coincidentally with a rise in the yearly vaccinations from about four to ten millions. As there has been no appreciable change for many centuries in the sanitation of the Indian villages, in which about 90 per cent. of the people live, these data finally disprove the oft-exposed fallacy that the reduction in smallpox in the second half of last century in this country was due to sanitary improvements and not to vaccination.

Bacillary Dysentery.—The only specific curative treatment in the dangerous toxic forms of bacillary dysentery is the anti-toxic serum, which has to be made by injecting horses with increasing doses of the bacterial toxins, to which they soon become accustomed. The value of this serum is so fully established that it only requires mention.

Amœbic Dysentery and Liver Abscess.—It was only at the beginning of the present century that bacillary dysentery was differentiated from the protozoal form caused by an intestinal amœba, and it was not known that the amœbic form was common in India until in 1900 I found it to be so in Calcutta, where I also showed that tropical liver abscess was secondary only to amœbic dysentery, and that the old remedy ipecacuanha was only of value in that form. As early as 1886, ipecacuanha had been recommended empirically by McLean in hepatitis to prevent liver abscess, but it fell largely out of use after the saline treatment of dysentery had proved effective in what we now recognise was the bacillary form. The rediscovery and placing on a scientific basis of the ipecacuanha treatment of amœbic hepatitis, after its early diagnosis by the blood changes, together with the introduction of aspiration and oral ipecacuanha treatment of liver abscess, in place of the old open operation, with its almost inevitable secondary septic infection, resulted in the rapid decline from 1907 in the British Army liver abscess incidence and mortality seen in the chart [exhibited], with the gratifying result that the yearly average number of deaths of British soldiers from liver abscess fell from 98 in the decade ending 1906 to nil in 1931, and the liver abscess case mortality in two large series has also fallen from 60 to 2 per cent. In 1912, the treatment of both amœbic dysentery and hepatitis was much improved by the use of the active principle of the nauseating ipecacuanha, by the discovery of the greater activity of emetine, due largely to the simple experiments of Wedder on a harmless water amœba, and in Calcutta, by the speaker, on the pathogenic amœba which causes dysentery.

Plague.—This disease presents the most remarkable example in history of how an old-time mysterious pestilence, on its reappearance after a long interval in civilised parts, was so effectively investigated by modern bacteriological and experimental methods that the means of controlling it were discovered within about one decade. Within historical times, plague has on several occasions caused world-wide and very fatal pestilence, such as the Black Death of 1348-9, which is said to have carried off one-fourth of the population of Europe, 90 per cent. of the people in some British monasteries, while 70,000 people of London, one-seventh of the then population, died in 1664-5, soon after which plague ceased to be epidemic in this country. In 1894, it was carried to Hong Kong from the remote interior of China, which afforded the first opportunity for modern investigation, and in a few months the plague bacillus was isolated and proved by animal experiments to be the cause of the disease. Bombay was infected in 1896, and within two years an efficient plague vaccine had been discovered by Haffkine, and since then much improved, and the first Indian Plague Commission, as the result of a critical study, demonstrated that by its means the incidence was reduced to one-fifth and the case mortality to one-half, thus reducing the death rate to one-tenth of that of the uninoculated in the same outbreaks, and a recent volume of further data shows a very similar reduction of the death rate to one-eighth.

Further, an anti-plague serum was prepared which did not prove very efficient, but in the last two years F. P. Mackie and B. Naidu, by further research have made a serum which has undoubtedly saved some otherwise inevitably fatal septicæmic cases of plague. But that is not all, for within about a decade of the outbreak in Bombay, all the old ideas of direct contagion, with consequent great waste of money on useless disinfection measures, were swept away through experiments mainly carried out on such vermin as rats by V. Glen Liston, confirmed by the Second Indian Plague Commission under Sir Charles Martin, which proved the infection to be by the indirect method through rat-fleas. Thus it became possible to

check the spread of the pandemic over the world by killing the rats and their fleas on ships, and the mysteries of this ancient pestilence, perhaps the worst the world has ever known, have been solved by modern experimental research methods in one decade, with untold saving of life and suffering. Surely only those who are wilfully blind can fail to see in such epoch-making results full justification for animal experiments, mostly carried out on vermin on whose destruction large sums are annually expended.

Malta or Undulant Fever.—This is a very debilitating fever of some six months' duration, as you will see from the temperature chart [displayed]. It is widely prevalent in Europe, Africa, North India and the United States, while a form of the disease associated with contagious abortion of cattle occurs in this and many other countries. All our most important knowledge of the disease has been derived from animal experiments, for the causative organism was discovered in 1886, and proved by experiments on monkeys to be the cause of the disease, by one of the greatest of British research workers, David Bruce. Yet sanitary measures failed to reduce its serious incidence in our military forces at Malta, until a medical commission under the same worker in 1906 discovered the mode of infection in a most unlikely source; namely, through the milk of perfectly healthy goats, an animal particularly insusceptible to bacterial diseases as a class, and consequently its rôle was only detected by a thorough experimental investigation guided by a master mind. The diagram [exhibited] illustrates at a glance the immediate graphic reduction in the Malta fever cases from the middle of 1906, when the goats' milk supplied to our troops and sailors was regularly boiled. The average yearly incidence in our forces in the three years up to 1905 had been 456, in the three years after 1906 the average fell to six only, a reduction of 98·7 per cent., and the benefit of the discovery was reaped during the Great War in saving thousands of our sailors from this serious and sometimes fatal disease.

How the British were narrowly saved from betrayal during the Great War through anti-typhoid inoculation not being compulsory.—This is such a serious matter that the evidence for the above statement will be given as far as possible by means of extracts from official and other publications. The first is from page 16 of the Official History of the War, Medical Services General History, Vol. I. "The question of making anti-typhoid inoculation compulsory was considered by the (Medical) Advisory Board in February, 1912. The board considered that despite the most careful sanitary organisation there must continue to be grave danger of typhoid fever becoming epidemic during operations in the field, and expressed the opinion that, in view of the increased resistance to infection conferred by anti-typhoid inoculation, and the impossibility of inoculating the expeditionary force after mobilisation, the only method of securing the maximum of immunity would be by the adoption of anti-typhoid inoculation as a routine matter in times of peace. The board, therefore, strongly recommended to the Army Council that these anti-typhoid inoculations should be made compulsory for all soldiers on attaining the age and service at which they become available for active and foreign service; they drew attention to the procedure then adopted in the Army of the United States of America and the results obtained during its recent mobilisation on the Mexican frontier. The Army Council, however, did not consider it advisable that anti-typhoid inoculation should be made compulsory, but directed that the soldier should be encouraged by lectures and by leaflets to take advantage of the safety conferred by it."

The apprehension this decision of the Army Council caused in the medical department on the outbreak of the Great War is brought out by the following opening sentence of Chapter IX on the Enteric Fevers of the volume on Pathology of the Official History of the War. "Enteric fevers during the war might well have been the subject of the blackest chapter in its medical history. The Army Medical Department has never had any illusions as to the grave potentialities of these fevers in the war, only too securely based on the medical records of the British and other armies. This knowledge was shared by the civil population, since it had not forgotten how heavy a toll had been paid to enteric in the South African War."

In the section on Protective Inoculation, commencing on page 247 of the same volume it is first pointed out that great improvement in the protective value of the vaccine was effected, subsequently to the South African War, by the late William Leishman and his R.A.M.C. colleagues, and the report correctly states that this "is but one more illustration of the fact that progress in such matters is continuous," and "it can hardly be doubted that the vaccine of the future will probably leave the present vaccine still further behind in protective value," a forecast that a paper published in the April issue of the R.A.M.C. journal seems destined to fulfil.

The conditions as regards inoculation on the Western Front in the early stages of the war are next described as follows: "The Medical Department laboured under a heavy handicap in lacking compulsory powers in this matter, powers conceded before or during the war to the medical departments of the American, French, Italian and German armies." The result was that our medical officers were only able "to inoculate with a single dose, about 25 to

Table I.

The Relative Incidence and Mortality from the Enteric Fevers among the British Troops engaged respectively in the South African War and in the War of 1914-18.

	Total Cases.	Total Deaths.	Case Mortality per cent.	Mean Annual Strength.	Annual Incidence per 1,000 Strength.	Annual Death Rate per 1,000 Strength.
South African War, 1899-1902	57,684	8,022	13·9	208,226	105·00	14·6
The Great War, 1914-1919 ...	20,139	1,191	5·9	2,000,000 (approx.)	2·35	0·13

Incidence in Great War, one forty-fifth. Death Rate in the Great War, one-hundredth.

30 per cent. of the original expeditionary force before they crossed the Channel," and it is recorded that it was altogether out of the question to increase the percentage during the early battles, and the retreat from Mons, and " it was not until the fighting on the Aisne had been in progress for some time, and until the army had been able to take breath, and to make progress in its reconstruction and the incorporation of its reinforcements, that it became possible to press for and to carry out fresh inoculations on any considerable scale. By this time, towards the beginning of October, 1914, the urgent need for this became manifest to those whose duty it was to keep their fingers on the epidemic pulse of the army. Typhoid fever had made its appearance, was showing an alarming tendency to spread in certain units, and was presenting itself, only too often, in the grave form familiar to those who had served in India during the pre-inoculation days, and in the South African War. . . . There was nothing to prevent a violent conflagration except general preventive measures and the special protection conferred by inoculation."

I now turn to what was being done at home to meet this grave emergency. My next quotation is taken from page 274 of the November 1st, 1914, issue of the *Abolitionist*, the organ of the British Union for the Abolition of Vivisection; it reads thus: " Our work among the soldiers. There is little doubt that our dissemination of the facts about anti-typhoid inoculation, and our reminder to the soldiers that it is not compulsory, are having their due effect, not only on the troops themselves, but upon the Government, which hesitates to follow the example of the French and American authorities in compelling submission to the rite. . . . The British Union branch secretaries and working members have responded splendidly to our call, and have distributed leaflets wholesale among the soldiers; even, in several cases, defying the commanding officer and penetrating into the camps." Comment is unnecessary, but anyone interested will find the whole sorry story told in a boastful article in the *Abolitionist* of July 1st, 1916, page, 186, by the late Walter Hadwen, entitled: " Lord Kitchener. A brief record of our struggle with the War Office." This relates how the ' antis ' " took whole-page advertisements in all the leading journals, at a cost of many hundreds of pounds," until the Government Censor was compelled to stop their advertisement; how they " employed men to distribute leaflets throughout the English camps," until " our distributors were arrested," and how that " after our hard struggle of 14 months " they were able " to rest assured that the threatened compulsion was cancelled."

Lastly, I turn to how the critical situation was saved, which is told in a short paragraph on page 5 of the July, 1926, issue of our quarterly publication *The Fight Against Disease*, in a notice of the death of our Founder and first Hon. Secretary, Stephen Paget. It reads: " Soon after the outbreak of the war, he (Paget) was chosen by the War Office to lecture to soldiers on various topics, including hygiene and typhoid inoculations; 395,000 copies of his typhoid fever leaflet were printed and issued by the Society during 1914, 1915 and 1916; 21,000 copies of the same leaflet in French were prepared and distributed among the Belgians in this country. He used to stand by the hour lecturing to raw recruits in camps in all parts of England, often under very severe weather conditions. His work was rewarded by the War Office returns, which showed the incidence and mortality rates among our inoculated and uninoculated troops. But a breakdown in his health resulted." From this he never completely recovered, so eventually made the supreme sacrifice through his patriotism. But he did not die in vain, as the following data from the Medical History of the War prove. Soon after the line on the Western Front became stabilised " strenuous and unremitting efforts commenced by means of lectures, etc., to persuade the men to be inoculated. Fortunately, the task was fairly easy, the position as regards the arguments and proofs which could be brought forward being far more satisfactory than was the case formerly. The percentage of the inoculated rose with remarkable rapidity, influenced naturally to a large extent by the fact that the reinforcements coming from home and elsewhere presented an increasingly high inoculation strength. . . . It was not long before the inoculation strength of the troops in France rose to a figure which fluctuated between 90 and 98 per cent,"

Thus were defeated the strenuous efforts of the fanatics who, in some incomprehensible way, had persuaded themselves that all the medical expert advisers of every army in Europe and the United States were absolutely wrong, as regards the protective value of anti-typhoid inoculation, and that they, the prohibitionists, only were right, although presumably it was against their principles to have done any scientific experimental investigations, by which alone such an extremely complicated and highly technical subject as the production of immunity in the animal system against bacterial disease can be elucidated.

The diagrams [exhibited] show the conclusive figures in the Official History of the War, showing the reduction of the incidence per thousand of typhoid among a yearly average of two million of our troops on the Western Front to only one-forty-fifth of that among an average of over 200,000 men in the South African War, and a reduction of the death rate to only one-hundredth.

The second chart shows similar data for the South African War of 1899-1902, the German Herrero War of 1904-07 and of the British campaign in the same area in German South-West Africa in 1914-15. It shows the typhoid death rate per thousand in the 1914-15 campaign was one-fiftieth or less of that of the earlier campaigns in the same country, due to the greatly improved vaccine latterly available.

We only have to recall how the typhoid epidemic held up Lord Roberts' advance and greatly prolonged the South African War, and the impossibility of adequate sanitary measures in the trenches in France, together with the narrow escape of our Channel Ports from being seized by the Germans in the first year of the war, and used for cutting off our food supplies by submarines and for the invasion of our Southern Coasts, to realise that when typhoid was "showing an alarming tendency to spread" on the Western Front in the autumn of 1914, owing to the expeditionary force having had to be sent to France with few men inoculated, if the prohibitionists had succeeded in their strenuous attempts to stop preventive inoculation, Kitchener's brave volunteer army could not for long have withstood the onset of the fully inoculated German troops, and our country would have been betrayed into the hands of our enemies.

Unfortunately the prohibitionists cannot admit the truth of this, or any other great life-saving discoveries of experimental medicine, without losing much of their appeal to their financial supporters, so I fear there is no doubt they would repeat the opposition under similar circumstances. This fact alone necessitates the sustained activities of the Research Defence Society—if possible with financial support in some small degree proportionate to that of our opponents—so that in any renewed hour of trial we may not fail to repeat the heroic achievement of Stephen Paget, who at least may be said to have done more in the Great War than any other single man to save Britain from defeat.

More Specific Curative Remedies for serious widespread Diseases have been discovered by Animal Experiments in about 30 years than accrued from 3,000 years of Empiricism.—Cinchona bark for malaria and ipecacuanha for amœbic dysentery appear to be the only really curative remedies for serious specific diseases that have been discovered by empirical measures in 3,000 years of therapeutic history. Moreover, there is scarcely an important and commonly-used drug in the British Pharmacopœia, the efficient employment of which is not dependent on knowledge obtained by animal experiment. Once more, Professor Cushny, in his evidence before the last Royal Commission, showed that all the best soporifics, all local anæsthetics, the whole group of antipyretics, diuretics for kidney disease, physostigmine for the excruciating glaucoma, vaso-dilators for the agonising angina pectoris, and many other valuable drugs had been discovered within the previous 40 years by animal experiments, under which, in his long experience, "no animal had suffered pain." Yet within the same period he could only recall one drug of moderate value, apart from some local antiseptics, that had been found without such experiments. No one, therefore, who has persistently opposed animal experiments, can consistently avail him or herself of modern medical treatment. They should become christian scientists, or they may go further in their devotion to animal life and adopt the Jain religion of India, which forbids its devotees to kill even the vermin that swarm on their bodies.

Table II.

Enteric Deaths per 1,000 Strength in Three South African Wars.

	Average Strength.	Enteric Deaths.	Ratio per 1,000 Strength.	
			Whole Period.	Per Annum.
South African War, 1899-1902	209,404	8,227	38·8	14·7
German Herrero, 1904-1907	11,367	529	46·5	16·3
South-West Africa, 1914-1915	33,000	26	0·78	0·75

Incidence in 1914-15, one-fiftieth or less.

Chemio-Therapeutics. — This new science makes use of the knowledge of the relationships between chemical constitution and therapeutic action, acquired by earlier animal experiments, to make very numerous new chemical compounds likely to prove active against the parasites of particular diseases, which must then be tested on small animals infected with the particular microbe, for they are too numerous and toxic to be tried first directly on man. The following are the most important of such remedies used in tropical medicine.

The Salvarsan Group of Drugs in Yaws and Relapsing Fever.—Salvarsan and neosalvarsan were discovered by Ehrlich and first called 606 and 906, because that large number of toxic substances had to be made and tested before those very potent anti-syphilitic remedies were obtained after years of research. The tropical disease, yaws, is caused by a closely allied organism to that of syphilis, but one innocently contracted chiefly by children by direct contagion. It is so prevalent in very extensive areas of the East Indies, Oceana, Tropical Africa and the West Indies, that few of the indigenous population of large areas escape suffering from the numerous long continued loathsome sores it produces, photos of which, before and after treatment, I show you. Yet a single injection of these new synthetic drugs often causes rapid healing of all the ulcers, although additional doses are advisable to complete the cure and prevent the permanent crippling that may result from the lesions. In the Dutch East Indies Winkel reported that 1,600,000 doses of salvarsan had been given in yaws up to 1924 alone, while in Africa the effects of its use have been so graphic that they have popularised European medicine, in place of the crude treatment of witch-doctors, to the immense benefit of millions of poor people, in hundreds of thousands of square miles of country.

Relapsing Fever, formerly confused with typhus, and very prevalent and fatal in Eastern Europe, immense tracts of Northern and Tropical Africa and parts of India, is also readily curable by salvarsan during the first few days of this usually short fever. In fact, only the cost of the drug checks the illimitable relief of suffering it can produce, but it cannot be used at all without each batch of the drug being standardised by tests on small animals, so that if the abolitionists could have their way they would perpetuate unlimited and quite unnecessary suffering throughout the world, mostly in innocent children.

The Cure of Sleeping-Sickness by Bayer 205 and Tryparsamide. — Sleeping-sickness was known a century ago to West African Arab slave dealers as always fatal. It spread to Uganda, where it reduced the population around the north of Lake Victoria Nyanza from 56,000 in 1900 to 13,000 by 1907, and it has for long been decimating extensive areas of British, French, German, and Belgian tropical Africa. The causative trypanosome and infection through the bites of the tsetse fly were established mainly through the animal experiments of David Bruce, but as those flies could not be exterminated nothing but the discovery of an effective treatment could stay the ravages of the disease. Fortunately many animals suffer naturally from trypanosome infections, and mice can be readily infected with the human forms and used for testing drugs on the parasites. Atoxyl and other arsenical compounds proved of some value in the early blood infection with trypanosomes, which later develops into sleeping-sickness when the central nervous system is invaded by the parasite, so numerous new synthetic compounds were made and tried in mice, with the result that two very valuable preparations were discovered, the German Bayer 205, which clears the blood of mice of innumerable trypanosomes within 24 hours, and is effective in human infections in the early stage; and the complementary American-discovered Tryparsamide, which cures most cases in the second stage of sleeping-sickness and some in the last stages of the disease. A sleeping-sickness invasion of the Southern Sudan has already been practically stamped out by searching out and treating the early cases, and valuable results have been obtained through these new drugs in many other areas of Africa, so there is little or no doubt that immense fertile areas of tropical Africa will be thus saved from decimation and ruin; thanks to animal experiments largely carried out on rats and mice. Moreover, some animal trypanosome infections have also been cured by the same drugs, including surra in camels in India, and if we may judge by value of weight, the saving of one camel should be worth the sacrifice of a large number of mice.

The Antimony Cure of Kala-Azar or Black Fever.—This terrible disease in the course of 30 years swept up the western portion of the Brahmaputra Valley of Assam and literally carried off one-third of the population. As it had a case mortality of 96 per cent. on tea estates under continued skilled European medical treatment, and it took an average of seven months to kill its unfortunate victims by inches from fever, with enormous enlargement of the spleen and liver, and most of its victims were children, so the suffering, misery and economic loss caused by kala-azar can rarely, if ever, have been equalled. After my investigation of 1896-97, epidemiological measures checked its progress for a time and allowed it to be stamped out of a number of previously decimated tea estates, but in accordance with my forecast that any depressing disease might start a renewed outbreak of kala-azar, this took

place in the eastern part of the Brahmaputra Valley after the influenza epidemic of 1918. Very fortunately, by this time chemio-therapeutic researches on sleeping-sickness and other diseases had led to the trial of antimony salts in kala-azar, with the remarkable result that over 80,000 cases were treated for three months on end in scattered Assam villages by intravenous antimony injections, over 80 per cent. of the sufferers were saved, and the epidemic was stayed with scarcely any loss of life compared with the earlier outbreak. In 1920 the Calcutta Tea Association, at my suggestion, supplied funds in the newly-opened Calcutta School of Tropical Medicine for a whole-time research worker on kala-azar, and as the result, a decade of patient work testing a number of newly-discovered organic antimony compounds, Dr. L. E. Napier has proved that with eight daily injections of neostibosan, some 90 per cent. of the sufferers from this formerly deadly disease can be cured, and he has recently recorded that by systematically seeking out and treating all the cases in a group of villages near Calcutta for six years, their number has been reduced from 121 and 127 in the first two years, to 12 and 3 respectively in the last two years, or a decline of 94 per cent. It is now abundantly clear that these researches have placed in our hands the means to eradicate this terrible disease from the affected, among a population of at least 60 million Indian people, whenever sufficient funds and staff become available, while even the present indigenous medical men must be saving many thousands of lives every year. Very similar results have also been obtained in the infantile kala-azar, so prevalent all round the Mediterranean basin. Truly this is not the least remarkable of the many triumphs of modern experimental therapeutics.

The Antimony Cure of Endemic Hæmaturia or Bilharziasis.—A good example of how one success leads to another is the fact that Dr. J. B. Christopherson, while treating a Sudan case of kala-azar with tartar emetic injections, observed that the symptoms of endemic hæmaturia also present disappeared. His patient following up of this observation has led to the establishment of a simple cure for this painful and debilitating disease, from which most of the children of the innumerable Egyptian villages dependent on irrigation suffer. Further, R. P. Leiper, through experimental work on snails and mice, has elucidated the mode of infection and prophylaxis of this widespread disease.

Carbon Tetrachloride in Hookworm Disease.—The value of this drug was discovered by tests made in the treatment of the hookworm of dogs by M. C. Hall in 1921. To mention but one example of its value, in 1928 S. M. Lambert reported that three million carbon tetrachloride treatments in Fiji had proved successful in preventing the previous rapid reinfections, with the result that the disease has been controlled as an economic and debilitating factor. And hookworm infection is one of the most widespread and debilitating diseases of warm climates.

Plasmoquine and Atebrin in the Treatment of Malaria.—The Health Organisation of the League of Nations has recently estimated the incidence of malaria, in India alone, annually at 100 million cases, requiring 680 tons of quinine for their proper treatment, of which less than one ton is actually expended, while the yearly economic loss to India due directly to malaria has been estimated at £25,000,000. Moreover, quinine fails completely to destroy the mosquito cycle of the malarial parasite [shown by diagram exhibited on the screen] through which alone the infection is ordinarily conveyed. Invaluable as has been the establishment of the mosquito infection theory as a guide to scientific prophylaxis, which was quite impossible as long as the erroneous air-borne theory held the field, it is not always practicable among poor scattered village populations, so improved curative and preventive drugs are required to supplement the altogether inadequate and expensive quinine supplies.

Here once more experimental therapeutics has come to our rescue, for within the last decade two invaluable synthetic remedies have been discovered, after testing numerous new compounds with likely compositions on malarial infections in small birds. The first of these, plasmoquine, has the long sought property of destroying in very small doses the mosquito stages of the malarial parasites which quinine does not touch, and there is already clear evidence that by its systematic use in labour forces the number of new infections through mosquitoes can be reduced greatly.

The other new remedy has a direct curative action on malaria far in excess of that of quinine, as will be evident from a glance at the diagram [exhibited] from a recent paper by S. P. James, W. D. Nicol and P. G. Shute, for whereas repeated relapses followed the use of quinine in cases 40 and 42, a few days' treatment sufficed really to cure the four cases treated with atebrin, so further comment is unnecessary, except to mention that all the patients were infected with a particularly dangerous relapsing form of malignant tertian malaria.

Invaluable as are these two new remedies in our struggle against the most widely prevalent and lethal disease in the world, the greatest significance of their discovery and of those against sleeping-sickness, kala-azar, relapsing fever, yaws, etc., is that no limit can be placed on the possibilities of discovering even more potent cures of malaria and other widespread

tropical disease by similar experimental methods. If the abolitionists had succeeded in their efforts 50, or even 30, years ago, in prohibiting the animal experiments through which these potent new remedies have been discovered, they would have made themselves responsible for the continuance year by year of all the immense amount of suffering and loss of life that have been averted by their use. Our tender-hearted founder spoke but the bare truth when he described all such as "The enemies of the People," or as Professor A. V. Hill, Nobel Prize winner and Vice-Chairman of our Society, well expressed it, "Anti-vivisection is Anti-scientific Medicine."

The Benefits Animals have derived through Animal Experiments.—Great as are the benefits mankind has derived from animal experiments, they are less than animals, as a class, have obtained from bacteriological and other researches from the time of Louis Pasteur to the present day, as the following brief data will suffice to prove.

Rinderpest or Cattle Plague.—This very highly contagious disease of cattle has been absent from Great Britain since 1877, but in 1896-9 it carried off over 2,000,000 in South Africa, when that country was only saved from ruin by the successful researches of Koch, Kolle and Turner in discovering one of the most potent of protective sera, which produces sufficiently long temporary immunity to be of immense life-saving value during epidemics, while lasting immunity can be produced by less simple methods. It fell to my lot to make the first anti-rinderpest serum in India. In 1899 I carried out a strenuous three weeks' village inoculation campaign at a day temperature of 115° F. in the shade, with the result that among about 500 inoculated cattle, directly exposed to infection, not a single one developed the disease after the incubation period, that was not already infected before treatment; yet of about an equal number of uninoculated animals in the same villages one-half developed rinderpest and half of those died. During the last three decades the demand for the serum has steadily increased in India, until four million doses are now prepared yearly, and you will see from the first line of the table I show you of the data for the most recent year the returns for the nine provinces of India are available, 1929-30, over one million animals were inoculated during outbreaks of rinderpest with a death rate of 0·37 per cent., or one twenty-ninth of that of the uninoculated animals in the same outbreaks, and in the most advanced province, the Punjab, among nearly 300,000 inoculations in three years less than 1 in 1,000 died of rinderpest although exposed to infection.

Hæmorrhagic Septicæmia of Cattle, etc.—Still better results are being obtained from protective inoculation against this very fatal, mainly soil infection, disease of cattle, with 90 per cent. mortality within 24 hours of onset, for the table shows that among 806,900 animals inoculated in infected areas the mortality was only one in five thousand, or one sixty-sixth of that among the uninoculated in the same areas.

Blackquarter.—This is another soil infection disease of young cattle, which carries them off in a day or two, and the table shows a death rate of only 1 in 25,000 among the inoculated, or one eighty-fifth of that among the uninoculated in the same areas.

Thus over two million cattle are receiving protective inoculation yearly in India against these three deadly animal diseases alone, and one of the senior veterinary research officers of that country recently assured me that, at a most conservative estimate, not less than 500,000 are being thereby saved yearly from a painful death. To anyone who knows India, the simple fact that the highly conservative, not to say suspicious, Indian villager, permits such wholesale inoculations of his cattle, his most valuable possession, proves that he knows from practical experience, and without the smallest possibility of doubt, the immense protective and life-saving value of these inoculations. As the required vaccines and serums are prepared from a very small number of animals, compared with the numbers saved by them, the net reduction in the sufferings of the animals must be anything from one hundred fold upwards, quite

Table III.

Preventative Inoculation of Animals (Chiefly Cattle) in India in 1929-30.

Disease.	Deaths Among Reinoculated.	Number Inoculated.	Deaths in Inoculated.	Percentage of Deaths in Inoculated.	Ratio of Deaths in Inoculated to those in Uninoculated.
Rinderpest	139,576	1,161,986	4,869	0·37	$\frac{1}{29}$
Hæmorrhagic Septicæmia ...	11,729	806,901	162	0·02	$\frac{1}{66}$
Blackquarter	4,129	127,981	49	0·004	$\frac{1}{85}$
Total	155,434	2,096,868	5,070	0·23	$\frac{1}{56}$
Estimated Animals Saved ...		500,000			

apart from the economic saving, which is not to be despised in these hard times.

Anthrax.—In the half-century that has just elapsed since Pasteur's dramatic demonstration in sheep of the life-saving value of his protective vaccination against the invariably fatal effects of the inoculation of virulent anthrax bacilli, untold millions of animals have been saved from suffering and death by the use of his and of later improved vaccines, some faint idea of which may be gathered from the evidence of Sir Stewart Stockman before the last Royal Commission; that in Hungary alone in 11½ millions of vaccinated animals, the loss on the farms was reduced from 10 per cent. to less than 1 per cent., a saving of over one million animals in that small country alone.

Swine Erysipelas. — The same leading authority recorded that "The statistics from Hungary show that in four million observations the death rate was reduced in inoculated animals to 1·6 per cent., whereas in the non-inoculated it amounted to about 20 per cent."

Among other important diseases of animals, recorded in standard works on veterinary medicine and bacteriology, in which much saving of suffering and life has been effected by the use of serums and vaccines discovered or made through animal experiments, which I have time only to enumerate are: braxy of sheep, prevalent in Scotland, joint-ill of foals, tetanus, swine fever, contagious bovine pleuro-pneumonia, and of the diagnostic use of mallein in glanders it is recorded: "Experience in Great Britain and elsewhere has shown that by this method alone the disease may be eradicated."

Further curative remedies have been discovered by animal researches for certain animal trypanosome infections, tropical ulcers of dogs and man and piroplasmosis of bovines, sheep and dogs, the last of which used to carry off 90 per cent. of the dogs in very extensive tropical areas, such as in Africa, but is now readily curable. Nor can any limit be placed on the relief to animals that will undoubtedly accrue from further such investigations, as a single recent example will suffice to prove.

Distemper of Dogs.—Everyone knows the truth of Professor Hobday's statement that hundreds of thousands of dogs die annually of distemper, so it is not surprising that dog lovers, both here and in the United States, raised funds to finance, with the help of the *Field* newspaper, the very successful investigation of distemper by the Medical Research Council, whose last report for 1931-32 records the following results: "In dog communities, such as packs of hounds, distemper in epidemic form often had a mortality of 50 to 80 per cent. No trustworthy preventative was known." "It was found, in due course that a healthy dog could be given lasting protection against distemper by the inoculation of a vaccine containing the killed distemper organisms, followed by inoculation of living virus a fortnight later. Preparations of antiserum were made, and it was found that the dog could also be protected by a simultaneous inoculation of antiserum and virus, and that the antiserum used alone was valuable in diminishing the severity of the disease in an unprotected dog if given early enough." "Trials were made on a large scale, especially in foxhound kennels. . . . . Highly successful results were obtained. A survey showed that, taking cases only where exposure of young dogs to infection was definitely known to have occurred, the incidence of distemper among 650 inoculated hounds belonging to 23 different hunting packs was only 1·4 per cent., and the death rate 0·3 per cent. Without inoculation the incidence among young foxhounds in this country is nearly 100 per cent., while the death rate is usually 50 per cent., and may exceed 75 per cent." Such facts speak for themselves.

It is worthy of note that Mr. Baldwin, when recently asked in the House of Commons, if this discovery could have been made if the Dogs' Protection Bill had been passed, replied that he understood that it would have been quite impossible. Yet the abolitionists have for long agitated for its passage, so, if successful, they would have prolonged indefinitely unlimited suffering of the dogs themselves.

Prospects opened up of the Conquest of Yellow Fever and other Virus Diseases.—The certainty that before long, all over the world, millions of dogs will be saved from the most painful and fatal disease they are liable to, as the direct result of the distemper researches, is likely ultimately to prove but a minor benefit compared to the good prospect of its leading to the conquest of a number of the most widespread infectious diseases of man and animals, produced by the ultramicroscopical viruses of which that of distemper is the first to be conquered. In fact, a protective vaccine against the deadly yellow fever, of a very promising nature has already accrued from the application of the principles developed during the distemper work. Now the virus infections thus opened up to new and profitable lines of research include such important and widespread diseases of man as typhus, smallpox, rabies, encephalitis, poliomyelitis, measles, five short tropical fevers, and common colds. Moreover, the standard British work on bacteriology describes no less than 25 virus diseases affecting such a wide range of animals as horses, cattle, sheep, goats, swine, dogs, cats, fowls, rabbits, guinea-pigs and monkeys, and including the widespread rinderpest, and foot-and-mouth disease, as well as one form at least of cancerous tumour. The success of the recent distemper researches is thus likely to be just as epoch-making as the early bacteriological triumphs of Pasteur and Koch, and it

is quite clear that the necessity for the continuation of experimental researches on animals, which was established by the 1912 report of the Royal Commission on the subject, in the interests of the animals themselves, as well as of mankind, is far more imperative at the present time than it has ever been in the past.

Conclusion.—The foregoing evidence will suffice to prove that literally millions of animals are being saved in civilised countries every year by the use of serums, vaccines, etc., discovered and made through unavoidable animal experiments, and the number is being added to each decade. Now no scientist of standing will deny that some suffering is inflicted on animals in this work, but I maintain, with confidence, that the reduction of the sufferings of the animals as a class, is many thousand times that inflicted on them in the discovery and preparation of the serums and vaccines I have dealt with.

I may here point out that the figures of the total animal experiments in this country, often quoted without analysis by prohibitionists, may easily exaggerate in the public mind the amount of pain inflicted by them. In the first place, of the 5 per cent. of cutting operations, in nearly half (three-eighths) the animal is killed while under the anæsthetic, without which such operations cannot be done, so they are actually saved the pain of their ultimate death from disease or injury. Of the remaining 95 per cent. of inoculations, feeding tests, etc., the Home Secretary states: "In a very large number of such experiments the results are negative, and the animals suffer no inconvenience whatever from the inoculations. These are therefore entirely painless." Once more, nearly half (47 per cent.) of the entire experiments in 1931 were "for the preparation and testing of antitoxic sera and vaccines, and for testing and standardising of drugs." Now without these tests many important life-saving drugs and preparations could not be used at all, including salvarsan and antidiphtheritic serum. As there are data to prove that the prohibition of the manufacture of the latter would condemn from 5,000 to 10,000 innocent children in this country alone to die every year from the unspeakable agonies of slow suffocation due to diphtheria, the fiendish cruelty of those who would deprive them of it—whether through culpable ignorance or wilful blindness matters not—is difficult to understand or exaggerate.

I therefore come to the conclusion that the examples I have given to-day from the limited field of tropical medical and veterinary science alone, suffice to prove that the reduction in the suffering that results year by year to animals, as well as to man, from the discoveries made in about three decades through a limited number of animal experiments, is incalculably greater than the pain inflicted on the animals under our humane laws. Yet our opponents accuse the scientists of cruelty. Surely the boot is on the other foot, for it is the prohibitionists, if they could have had their way, who would have added enormously to the sufferings of the animals they profess to love.

The Veterinary Record

July 29th, 1933.

EXPERIMENTS ON ANIMALS

IN his attempt to effect the conquest of disease in man and animals, the scientist, whether he be medical or veterinary, is inevitably faced at some stage in his enquiry with the performance of crucial experiments upon animals. In very many instances he is practically powerless to make any headway unless these crucial experiments can be performed. As an instance of this stalemate between research worker and disease, human influenza may be cited. For years scientists have been working somewhat ineffectually at this problem owing to the fact that the disease could not be induced in experimental animals. The outlook has recently been greatly improved by the discovery of Smith, Andrewes and Laidlaw that a filterable virus obtained from human sufferers of the disease can be transmitted to ferrets, therein setting up a similar diseased condition. In this way a constant supply of the causal organism may be maintained and possibly some method of inducing immunity in the human population may be discovered. This important result has been obtained as a direct outcome of the application of knowledge gained by Shope on swine influenza, and by Dunkin and Laidlaw in their successful attack on the problem of canine distemper. The success of the latter research depended upon experiments carried out on a comparatively small number of dogs and ferrets and has resulted already in the saving of a vastly larger number of canine lives.

In the Stephen Paget Memorial Lecture delivered recently by Sir Leonard Rogers before the Research Defence Society and which we have reproduced in this number of the *Veterinary Record*, the lecturer has collected together a vast array of statistical data showing what immense saving of human and animal life has resulted from a comparatively few experiments on animals. Sir Leonard has dealt mainly with tropical diseases, such as snake bite, cholera, the dysenteries, Malta fever, relapsing fever

and sleeping sickness, giving figures for the incidence and mortality rates before and after the results of research had been applied. In particular, the figures dealing with the problem of typhoid fever in the South African War and in the war of 1914-18 are most instructive, proving conclusively the enormous value of protective inoculation. The information obtained in this lecture should amply prove to all the incalculable value in alleviating human and animal suffering of the results obtained from intelligently applied experiments on animals. In the face of such data one would think that all animal lovers would agree, although with a sigh, that the amount of suffering saved by animal experimentation is so enormously greater than the direct suffering inflicted that the best way to reduce the sum total of suffering would be to encourage veterinary and medical research. The humane scientist who swallows his dislike of animal experimentation in order the more effectually to relieve man and animals of much of his suffering is moved by the same spirit as that which forces others to oppose animal experiments. Both are imbued with the desire to relieve suffering but are impelled along different roads, which, at times, seem to be diametrically opposed. How much better for animals as a whole if these two humanitarians could only work together, though each in his own way. The scientist experimenting on animals would not expect the support of the antivivisector, although he would wish that he had his sympathy. On the other hand, how magnificent would be the possible collaboration of the latter and the scientist, who is able to restrict his work to the perfection of methods that might lead to a reduction in the number of experiments on animals. For instance, the development of media upon which filterable viruses could be cultivated, the synthesis of biological products that can only be obtained at present as the result of some animal experiment, the elucidation of some reliable *in vitro* methods of assaying these biological products; these and other problems, if successfully solved, would have the desired effect. Already some successful work has been accomplished along these lines, but it would receive a great impetus if antivivisection societies would support it both morally and financially, whilst such a decision on their part would be universally acclaimed by all animal lovers. We do not suggest that the societies should discontinue their watchful brief on animal experimentation, although we think a more intelligent appreciation and criticism of the experiments performed would be to the advantage of all. We consider that all efforts to stop needless suffering to animals should be encouraged, and we think that the watching brief of the societies may possibly lead to the prevention of an occasional needless experiment.

ROYAL COLLEGE OF VETERINARY SURGEONS

Membership Examination, July, 1933

LIST OF SUCCESSFUL CANDIDATES

(*Continued from page* 692).

LIVERPOOL.

Class A.

FOUR YEARS' COURSE

†Holroyd, H.

FIVE YEARS' COURSE

Richmond, P.
Woods, Miss C. A.

Class B.

Brock, Miss D. M.
†Court, P. R.
Datnow, Miss R.
Henderson, Miss R. M.
Holmes, R. H.
Massey, Miss K. M.
†O'Neill, P. A. F.
Setterfield, R. R.
Tattersall, Miss M. G.
Thompson, Miss P. E. M.
Waddington, F. G.
Wallis, Miss C. S. J. R. H.
Wilson, Miss G. M. K.

Class C.

Beckett, W. E.
Dean, R. E.
Edwards, G. B.
Hey, T. E.
Hollander, Miss E. J.
Patchett, Miss E. H.
Tillemont-Thomason, Miss V. de C. C.
Williams, Miss P. L.

Class D.

Baird, J. C.
Buckler, G. K.
Chadha, S. R.

EDINBURGH.

Class A.

FOUR YEARS' COURSE

Caldwell, D. W.
Koomperochana, L.
†Morris, L. T.
Robertson, L. F.
Rutherford, George.
Taylor, J. J.
Macrae, Finlay.

FIVE YEARS' COURSE

*Bain, A. M.
Campbell, S. R.
†Clark, M. H.
Dall, J. A.
Ewart, R. H.
Kochan, W. F.
Leason, Arthur.
McLaggan, Robert.
Macrae, R. I.
Manning, N. P.
†Norval, John.
†Ogilvie, D. D.
Simison, J. T.
†Whittick, J. W.

* Denotes First Class Honours.
† Denotes Second Class Honours.

Class B.

Alexander, T. M.	Kellas, H. N.
Anderson, K. P.	Littler, S. B.
Anderson, T. S.	†McIlroy, W. J.
Bain, Donald.	McKelvey, David.
Bannister, Philip.	Matheson, R. C.
†Beattie, G. S.	Milne, James.
†Brownlie, W. M.	Riggs, Alastair.
Bryson, D. K.	Roberts, D. T.
Castles, Wilfrid.	Sahni, D. R.
Ferguson, H. N.	Serebrisky, Boris.
Foggie, Angus.	†Skea, A. J.
Ford, Reginald.	†Skea, Arthur.
Harbour, H. E.	Thomson, P. D.
Harries, S. T.	Wilson, P. J.
†Henderson, W. M.	Wright, James.
Jack, J. D. M.	

Class C.

Adams, A. J.	†McKinnon, J. A.
Anderson, A. H.	Pearce, J. W. R.
Bournan, R. W.	†Robertson, Alex.
Chalmers, A. W.	†Rorrison, J. M.
Chalmers, I. A.	Shepherd, A. M.
Elmslie, J. K. S.	Simpson, J. W.
†Gambles, R. M.	Suttie, John.
Gill, A. W.	Taylor, A. W.
Guthrie, W. J.	Thompson, W. J.
Haggart, D. S.	Whyte, A. A.
Little, A. C. W.	Wilson, S. G.
McDougall, K. D.	

Class D.

Adamson, A. M.	Lancaster, W. E.
Alexander, A. J.	McKay, W. S.
Christie, G. J.	Mackie, G. C.
Duff, R. H.	Munro, Christopher.
Durham, G. A.	Prentice, E. G.
Fraser, J. M.	Ross, J. M.
Graham, James.	Simpson, William.
Hall, R. F.	Sinclair, D. V.
Inglis, J. S. S.	Stewart, John.
Kelly, Alex.	Wallace, W. M.

† Denotes Second Class Honours.

(*To be concluded.*)

BRITISH PHARMACEUTICAL CONFERENCE

In his opening address to the annual British Pharmaceutical Conference, which commenced its deliberations at Grosvenor House Hotel, W., on July 25th, Dr. C. H. Hampshire (Chairman) said the fact that the conference was held in London every ten years gave an opportunity for a general review of pharmaceutical progress during the previous decade. The movement in medical treatment away from the use of vegetable drugs involved a corresponding lessening in the importance of the study of the plants which provided these drugs. This was reflected in the British Pharmacopœia, 1932, from which no fewer than 60 of the crude drugs contained in the British Pharmacopœia, 1914, had been excluded. Of these 60, 24 were of interest principally in India or the Dominions and Colonies and were excluded on the understanding that addenda dealing with the drug specially applicable to India and the various parts of the Empire would be produced by the authorities of the States concerned. There were thus 36 vegetable drugs of general use which had been removed from the Pharmacopœia.

The reasons for this severe cutting down of the number of vegetable drugs was the desire of the Commission to include only those substances which were of sufficient medical value to justify the continuance of their use by prescribers; also to reduce the number of drugs having similar active principles or which were employed for the same therapeutic purposes—for example, the astringents and purgatives.

This tendency in therapeutics made it necessary to consider carefully the type of work for which the pharmacist of the future must be trained, and which he must be prepared to undertake. Much of the pre-occupation with details of vegetable structures which had existed in the past had now become useless, and less attention should be devoted to the study of plants in order to allow for training in the knowledge of animal biology and physiology. It was clear that in future the pharmacist might be less of a botanist and must be more a biologist. If the pharmacist was to maintain his place as the trusted guardian of the purity of medicines, and the provider of the requirements of the doctor, he must be trained in biological methods, in a knowledge of bacteriology, and in the physiology of animal processes. The steps taken by the Pharmaceutical Society to adjust the education of the pharmacist to the changed basis of materia medica, and the facilities now afforded for the study of microbiology and of biological chemistry, would bear valuable fruit later, and the indications of changes in the educational requirements of pharmacists showed great foresight.

The Vitamins

Dealing with vitamins, Dr. Hampshire said that ten years ago the conception of accessory factors in nutrition which was brought forward by Hopkins in 1912 had attained general acceptance. The effects of different factors, or vitamins as they came to be called, had been differentiated and a considerable volume of experimental fact had been accumulated relative to the factors now familiar as vitamins A, B, C, and D. In the intervening decade an enormous amount of experimental work had been done in this field, with results which ranked among the most impressive achievements of scientific research. The question of standardisation had been dealt with by the Health Organisation of the League of Nations and it had been possible to make standard preparations and to recommend units for vitamins A, B, C, and D.

In the course of a long discussion of these preparations and of the present state of knowledge regarding vitamins, he said: "Two fundamental facts in relation to the chemistry of vitamin D were the discovery that sunlight or ultra-violet light brings about a cure of rickets and that antirachitic properties could be produced in fatty foods of various kinds by exposure to ultra-violet rays. The nature of the change taking place in food materials when thus irradiated was naturally a subject of great interest. The simplest explanation assumed the presence in these materials of a substance which was changed by the chemical action of the rays into vitamin D. This substance was eventually identified as ergosterol, a sterol having the formula $C_{28}H_{44}O$, which is a constituent of yeast, of ergot, and of many fatty foods. Ergosterol is a constituent of the skin, and many of the benefits of exposure of the skin to sunlight are consequent upon the conversion of ergosterol into vitamin D and the absorption of the vitamin into the system."

Clinical Communication

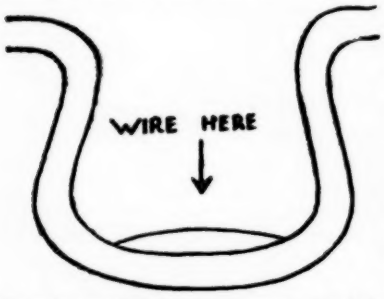
THREE CASES OF ABDOMINAL DISORDER IN THE HORSE, WITH FATAL TERMINATION*

R. MOORE, M.R.C.V.S.
Treorchy, Glam.

Case 1. *Subject.*—Horse, five years old, bought May 24th, 1933. About ten days after delivery it was reported to me that when standing in the stable the horse would lean against the stall and occasionally almost fall down, and that when at exercise, he walked in a peculiar manner. I examined him and found that when walking there was loss of co-ordination on the near side, fore and hind legs. Appetite was good, action of the bowels and the temperature normal. The condition resembled hemiplegia. As the horse was on trial, arrangements were made for his return to the dealer. On June 18th I was informed by 'phone that the horse was down in the stable when the ostler arrived in the morning, and that he had symptoms of abdominal pain, but not like those of ordinary colic.

I saw him as soon as convenient. He was then on his feet, had a haggard expression and was almost pulseless. Temperature 101° F. The case appeared hopeless. I prescribed stimulants, but the horse died eight hours after I saw him.

Post-mortem revealed extensive inflammation of the small intestine. At one part this was very severe and the mesentery was thickened and contracted, the intestine being pulled out of shape. The sketch gives a rough idea of its appearance. On separating the mesentery and intestine a piece of thin wire was found at the lower part of this loop. The wire was three-and-a-half inches long in all and roughly V-shaped.



Case 2. *Subject.*—Aged horse, working underground. This animal was taken ill with abdominal pain and died in nine hours. On *post-mortem* a rent four inches long was found in the mesentery. A loop of small intestine two feet long had passed through this. The loop was twisted on itself and appeared almost as if ligatured. It was intensely inflamed.

Case 3. *Subject.*—Pony, 14 h.h. This pony had worked underground 15 years. He was always in good condition, but never had much "middle"; in fact, he was what is generally known as "narrow-gutted." During the 15 years, he had two attacks of colic at long intervals, one severe two years ago. For the last year or so the ostler had often noticed him pawing in the stable for a few minutes. In August last he had a bad attack of colic. When seen by me he was continually scraping with his front feet, but did not lie down. Temperature 105° F. Pulse 60. Under treatment he made a fair recovery. He would occasionally paw for a few minutes, but showed no other signs of pain. This continued for a fortnight, when he began to lose flesh rapidly; I therefore gave instructions for him to be slaughtered and told the slaughterman to look for a tumour or other intestinal obstruction. *Post-mortem* revealed a large fibrous tumour containing almost all the small intestines except the duodenum. The tumour was somewhat heart-shaped, hard and fibrous, and weighed 25-lbs. It was attached to the spine and when divided the intestines could be seen passing through it.

* Received through Mr. C. E. Perry, F.R.C.V.S., *Record* Representative for the Mid-West and South Wales Division, N.V.M.A.

Abstracts

[Studies on East Coast Fever. II. Behaviour of the Parasite and the Development of Distinctive Lesions in Susceptible Animals. Cowdry, E. V., and Danks, W. B. C. (1933.) *Parasitology.* xxv. No. 1. February, 1933. Plates x, Figs. 97, Diag. 2, Charts 4, References 75.]

These studies, instigated by Lord Passfield when Colonial Secretary and carried out by Cowdry, Ham and Danks in Kenya and later in America, were aided by a grant made by the Rockefeller Foundation to Washington University for Research in Science. In Part I, "The Life-cycle of the Parasite in Ticks" (Cowdry and Ham, 1930 and 1932), the behaviour of *Theileria parva* in four series of ticks (*Rhipicephalus appendiculatus*) was dealt with: in Part II the fate of the parasite in susceptible animals is recorded. The report deals in minute detail with the material received for study, the technique employed, observations made in regard to the parasites in the feeding ticks, changes in the skin caused by the ticks, the migration of parasites to lymph glands, the kinds of cells parasitised, the appearance of gamonts and agamonts, the lesions in the lymph glands and blood-forming organs, respiratory system and blood stream. It discusses the life cycle of *Theileria parva* in cattle and the mechanism of recovery, and prevention and the systematic position of *Theileria parva*.

The authors state that they gladly embraced this opportunity of carrying out these investigations "because it is only by learning how the

host responds to the parasite and in some cases survives the attack, that we can hope rationally to plan therapeutic measures designed to increase its resistance, and others to kill the parasites without at the same time seriously injuring the host."

In the past the control of East Coast fever has been successfully based upon the scientific details elaborated by Koch, Theiler, Gonder, Watkins-Pitchford and other earlier workers, and the reports under review do not appear to have added any feature of great practical importance. Indeed, the sections dealing with prevention and therapy are somewhat disappointing. The authors suggest that "it is conceivable that the disease reaction could be arrested if freezing mixtures were applied to the superficial lymph glands which are first affected or if the animal were kept in a cold room." Again, "the effect of X-ray on the superficial lymph glands should be tested," though they admit "it is obvious that this procedure if found beneficial could only be used on animals of special value." They also indicate that "in the Union of South Africa, where snotziekte exists, it would be interesting to attempt to superpose the East Coast fever reaction on animals exhibiting this remarkable lymphocytic hyperplasia or *vice versa*. But unfortunately both are often so rapidly fatal that the time available might not be sufficient." They point out that "the fact that the lymphocytes, or small round cells, of the thymus are not severely injured in East Coast fever, coupled with the observations that calves are sometimes more prone to recover than adults, would incline one to administer large amounts of thymus extract. . . ." They add that "in view of the possible rôle of lymphocytes in fat metabolism it would be interesting to give large amounts of milk by the mouth, intravenously and intra-glandularly, because this treatment might partly compensate the animal for the loss of lymphocytes in the course of the disease." It is not anticipated, however, that these measures will appeal to those who have learnt from practical experience the efficacy of systematic short-interval dipping in the control and rapid elimination of this disease.

Ll. E. W. B.

* * * * *

[Prolapsus vaginæ in Cattle. Perl. (1933.) *Tierärztl. Rundsch*, 39, No. 12, pp. 198.]

This is a brief note describing a severe case of prolapsus vaginæ which occurred in a cow seven to eight weeks before she was due to calve. A diagram illustrating the extent of the prolapse as it appeared in the actual case is given, showing the various organs which have been extruded. The author is of the opinion that severe cases can be dealt with successfully only when attended early and by the immediate application of tampons for at least a week. Cows which have a predisposition to prolapsus vaginæ should be kept under close observation as they near the time of calving, and assistance called in as soon as required.

N. S. B.

* * * * *

[Diphtheria and Fowl Pox in Poultry. Leyhausen. (1933.) *Tierärztl. Rundsch*, 39, No. 12, pp. 194-196. 2 refs.]

When combatting outbreaks of fowl pox in the field by vaccination, unfortunate results are sometimes experienced, and instead of controlling the disease, it breaks out in a more or less severe form.

Leyhausen describes his experiences on a large poultry plant, where vaccines from different sources were employed. Over 1,000 birds vaccinated with Vaccine B developed fowl pox and more than 100 died. Although the vaccine was said to produce full immunity in three weeks the first birds were *noticed* to be ill six weeks after inoculation and developed both mouth and cutaneous lesions.

In surveying the outbreak it is suggested that either the vaccine was too weak and that exposure to infection occurred shortly after vaccination, or that the fowl pox material, a small quantity of which some manufacturers incorporate in their vaccine along with the ground pigeon scabs, was not correctly standardised and actually was the cause of the outbreak.

The importance of obtaining the vaccine material from a reliable source is stressed.

Considerable success was experienced by putting sulpholiquid in the drinking water and inoculating intra-muscularly 0·6 gram hexamethylentetramin per 1 kg. body weight.

N. S. B.

* * * * *

[On the Therapeutic Use of Dyes: Some Attempts with an Acridine Compound—Gonacrine (Chloromethylate of diaminoacridine). Panisset, L., and Masson, G. (1933.) *Bull. de l'Acad. Vét. de France*, vi, 2, 67-71.]

The writers give details of the composition, description and identification of gonacrine. As a result of their experiments on dogs, they conclude that the intravenous injection of progressively increasing doses of 0·00125 to 0·00375 gm. per kilog. or a single injection of 7 mgm. per kilog. of body weight does not seem to be fixed by the nerve centres. In one experiment the simultaneous intravenous injection of hexamethylene tetramine (10 cgr. per kilog.) and gonacrine (12 mgr. per kilog.) was followed by the presence of gonacrine in very small quantity in the nervous centres.

In cattle, gonacrine was tolerated in doses

(Concluded at foot of next column.)

Review

[The Diseases of Animals Transmissible to Man. (Trans. title.) Panisset, L. (1933.) 90 pp. Vigot Frères, Paris. 12 francs.]

Professor Panisset deals briefly, in the space of 90 pages, with the diseases of animals transmissible to man. The large sections are devoted to particulars of tuberculosis, rabies, anthrax, Brucella infections and glanders. Smaller sections are devoted to the discussion of erysipelas, foot-and-mouth disease, diphtheria, psittacosis, syphilis of animals, infectious anæmia of the horse, tularæmia and equine typhoid fever.

The aspects chiefly considered are the pathology of the conditions and the species of animals infected, the methods of spread of infection or transmission from animals to man and the possible methods of control.

Anthrax, rabies and glanders in man are stated to be generally of animal origin only.

In the discussion of diphtheria, mention is made of transmission to man *via* milk from animals suffering from ulcers in which diphtheria bacilli may be found; milk may also, of course, be contaminated by human carriers; Minett is quoted as having isolated authentic diphtheria bacilli from pus of five out of twelve horses examined. Panisset mentions that in outbreaks of diphtheria in a garrison the disease may be confined to mounted units, and he suggests that this may be due to horses acting as carriers.

Psittacosis has been shown to be due to a filterable virus, the *Bacillus psittacosis* acting as a secondary invader. The usual source of human infection is known to be infected parrakeets, though transmission from man to man is known to occur.

Under the heading "Syphilis of Animals," dourine, which is caused by *Trypanosoma equiperdum*, and spirochætosis of rabbits, hares and birds are discussed. None of these affections is transmissible to man, but they are mentioned on account of the term "syphilis."

Brief mention is made of rat bite fever, which is not rare in man in France and is due to *Spirochæta sodokii*.

A comparison is drawn between infectious anæmia of horses and pernicious anæmia of man. There is mentioned the case of a German veterinarian who became infected by means unknown and the injection of his blood or filtered serum reproduced the disease in a healthy horse. Another similar observation concerned a veterinarian who was in contact with cases of infectious anæmia and contracted a similar disease; his blood was virulent for healthy horses up to five years.

Typhoid fever of horses is mentioned on account of its name, though it is not transmissible to man.

A brief mention is made of tularæmia, which is common to man, rodents and sheep and may be transmitted by ticks and blood-sucking insects.

No mention is made of the typhus-like fevers and Rocky Mountain fever, which are common to man and animals and transmitted by invertebrate vectors, or of enzöotic hepatitis (Rift Valley fever) of man and animals.

The probable identity of canine and infantile Leishmaniasis might also have been discussed.

There is also no mention of mycotic infections with actinomyces and the species of ringworm fungus which are common to both man and animals, and mention is omitted of infection of man with the parasites of mange of the different species of domestic animals. A further omission is lack of reference to the infection of man by streptococci of animal sources. Reference might also have been made to the occasional infestation of man by the common helminth parasites of domestic animals such as Trichina, Hydatid (Echinococcus), Tæniæ, Fasciola, Trichostrongylus spp., etc.

The brochure will, however, prove of some value to those interested in veterinary public health and is well worth the price asked, which is 12 francs.

J. S.

---

per os of less than 18 mgm. per kilog. (by intravenous injection the dose should not exceed 4 mgm.). Elimination occurred early by the urine and later in very small quantity by the milk, but only after the ingestion of doses approaching the toxic dose. M. Marcenac's experiments with gonacrine in horses are quoted —the horse tolerates doses of 20-25 mgms. per kilog. by the mouth. Elimination by the urine is very rapid. It is suggested that on account of its total absorption and rapid elimination gonacrine may be without action on intestinal parasites.

Clark, Luten and Cutler of Vanderbilt University, have reported a scientific study of the famous "fainting" goats of Tennessee. The goats are so nervously constituted that any excitement makes them perfectly rigid for several minutes. If they try to run they fall and cannot rise till the spasm passes, hence the name "fainting." A similar strain of goat is found in Palestine. The condition is hereditary. Local tradition has it that all fainting goats in Tennessee are descendants of four of the Palestine strain sold in that section about 50 years ago, when a travelling show failed there. On the claim that the nervousness is due to a thyroid or parathyroid dysfunction, serum obtained from these "fainting" goats has become the basis of a widely advertised goitre treatment and has made it unnecessary for one veterinarian to continue in veterinary practice.—*Vet. Med.*

Report

CIVIL VETERINARY DEPARTMENT, PUNJAB

ANNUAL REPORT FOR THE YEAR 1931-32*

This report may be strongly recommended to the notice of anyone interested in the progress and activities of the veterinary departments of India. The Province of the Punjab possesses the largest veterinary service in India and has always been in the van in every direction of veterinary work. It deals with the breeding of all kinds of livestock and controls contagious disease and curative treatment. It has a well-established and well-equipped veterinary college, which provides a first-class education for its diplomates. It possesses also the largest cattle farm in India.

In spite of financial difficulties and certain retrenchments, progress in many directions is satisfactorily maintained. The magnitude of the work may be gauged from the figures, which are impressive.

Mr. Quirke held the post of Director, Veterinary Services, during the year under report, and he and his officers receive the thanks of the Ministry of Agriculture for the satisfactory way in which their duties were performed.

Breeding Operations.—The Hissar Cattle Farm is engaged mainly on the production of satisfactory strains of cattle for breeding purposes, but it is also made the field for much experimental work in feeding, in the cultivation of fodder crops and in the curative and preventive treatment of disease. It is now self-supporting in grain as well as in fodder. The issue of livestock during the year comprised 376 bulls, 6 douber stallions, 1 arab stallion, 138 rams, 46 ewes and 28 male goats. Calves numbering 1,436 were born during the year, and are weighed at birth to determine the average weight. Milk recording is conducted and some interesting figures are given in this connection. Disease on the Farm is dealt with by recent methods, and investigations in regard to the best method of tattooing cattle were carried out.

There are six grantee farms under the supervision of the Department, the largest of which is 4,226 acres.

A review of the cattle breeding conducted in certain special tracts is given in the report. At the close of the year there were 3,857 stud bulls belonging to local bodies, and regulations have now been framed with a view to discouraging the practice of releasing scrub bulls. The remarks in the report on the activities of the Department on horse, mule, buffalo, camel and sheep and goat breeding are interesting, and information is given regarding the 124 cattle fairs and shows held under the auspices of the Department.

Prevention and Treatment of Disease.—Surveys and conferences with local authorities were carried out to deal with the problems. The year was not a healthy one. Among cattle hæmorrhagic septicæmia was responsible for about 47 per cent. of the total mortality, and rinderpest was next in importance.

Cattle to the number of 88,240 were inoculated against rinderpest and 81,047 against hæmorrhagic septicæmia. Vaccinations against hæmorrhagic septicæmia amounted to 205,210 and against blackquarter to 21,420.

Thirty cases of glanders were detected and dealt with, and 2,641 cases of surra (including equines and camels) were treated at 32 surra centres.

There were 288 hospitals at work in the Province and the number of animals treated at these hospitals rose from 1,026,512 to 1,144,647. In addition, a large number of cases not brought to the hospitals were supplied with medicine and treated at outlying dispensaries.

Forty-eight thousand, five hundred and seventy-two villages were visited by the district staff on tour and 372,061 animals were treated.

Two hundred and four thousand, six hundred and sixteen castrations were performed on tour, a satisfactory increase of 17,000 over the previous year.

Punjab Veterinary College.—The number of students on the rolls was 143. There were 20 admissions, all of whom had passed the intermediate examination of the University. The course extends over a period of four years. Short courses for dressers and farriers are also given. So far, none of the students who have received the diploma are known to be unemployed, but the report indicates that, owing to financial stringency, prospects of Government employment are not bright. During the year a committee investigated the affairs of the College with a view to retrenchment, but it was decided that it was economically administered and only a few minor economies could be introduced. The attendance at the hospital of the College during the year amounted to 2,001 in-patients and 7,289 out-patients, and the average daily attendance was 139. Forty-seven animals underwent anti-rabic treatment during the year. One hundred and fifty-three skiagrams were taken. Ninety-nine gallons of electrolytic chlorine were prepared.

Veterinary Research.—In the Pathological Laboratory of the College 231 pathological and 482 parasitological specimens were examined., 27 samples of milk were analysed for the public and 132 *post-mortem* examinations conducted, apart from instructional work. In the district laboratories 301 specimens were examined. It was found that the College-made electrolytic chlorine contained about four times as much

* High Commissioner for India, Aldwych, London, W.C.2 3s. 9d.

available chlorine as the commercial product and it is produced at a very low cost.

Work of a special or original nature was closed down owing to lack of funds for experimental animals and the post of Veterinary Research Officer was abolished.

Experiments with single doses of "Naganol" were conducted successfully. In the Anatomical Section 40 museum specimens and 30 dissected specimens were prepared and a skeleton of a horse and a camel scientifically articulated. Work is being carried out in bone measurements with a view to averages being arrived at. Urine analysis is taught and experiments conducted. A report is being prepared on work in connection with indigenous drugs. Lectures, demonstrations with magic lantern slides, diagrams, etc., are carried out in the districts by the veterinary staff.

Mr. Aggarwala, Professor of Hygiene at the Veterinary College, published a book on "Feeding and Milking of Cows" and several other articles on cognate subjects.

The *Punjab Veterinary Journal*, as a professional reference for the benefit of the staff, is reported to show a marked improvement.

Staff Employed.—In addition to the Director, Mr. Quirke, five superintendents, two assistant superintendents and 14 deputy superintendents were employed in the districts. Eleven officers, including Mr. W. Taylor, the Principal, were engaged at the College and there were two officers under training. Three posts, including the Research Officer mentioned above, have since been abolished on retrenchment.

The subordinate staff consisted of 358 inspectors, veterinary assistant surgeons and veterinary assistants.

G. K. W.

BRITISH FRIESIAN MILK PERFORMANCE

"By the arrival of the 500th cow of the British Friesian breed to yield upwards of 2,000 gallons of milk in a lactation period of not more than 365 days, another milestone on the road to progress has been passed," writes a contributor to the *Farmer and Stockbreeder*, in the July 17th issue of that paper. "At a time when a 1,000-gallon cow was regarded as an exceptionally heavy milker, the 2,000-gallon British Friesian cow was prophesied in 1911. She first made her appearance in 1918. Of the 500 cows, eleven have passed the 3,000 gallon standard, while 113 others have given the 2,000-gallon yield on more than one occasion.

"It has fallen to Yorkshire to furnish the 500th 2,000-gallon cow. She was Terling Torch 37th, who yielded 2,000 gallons in 286 days, and is still giving six gallons daily. She is owned by Miss Martin Smith, of Portington, and she was bred by Lord Rayleigh."

* * * * *

The swine fever order which has been in effect in North Wales and border counties during the last two months has been withdrawn from all counties except Shropshire.

N.V.M.A. Divisional Reports

SOUTHERN COUNTIES VETERINARY SOCIETY*

President's Address at Winchester

The Spring Meeting of this Society was held on Friday, May 26th, at the Royal Hotel, Winchester, when the new President, Mr. J. F. D. Tutt, F.R.C.V.S., of Winchester, presided, and the others present were Messrs. R. E. Bullen, G. N. Gould, junr., B. Gorton, W. Maynard, E. S. Martin, J. T. Turney, J. Stewart Wood and J. B. White (Hon. Secretary), together with Captain W. K. Townson, and Messrs. N. S. Barron, C. Tyler, Thomas and M. E. White, who signed the attendance book as visitors.

The minutes of the previous meeting, as published in the *Veterinary Record*, were taken as read and confirmed.

Nominations for Membership.—The Hon. Secretary reported that he had received two nominations for membership—those of Mr. N. S. Barron, of Reading University, and Captain R. W. Down, of Andover. Both had been nominated by the President, and he would like to second them. Both nominations were accepted unanimously.

Correspondence.—(1) From the following, expressing regret at inability to attend: Sir Frederick Hobday, Miss Cust, Major Facer, Messrs. E. R. Harding, H. C. Rockett, F. J. Taylor, G. P. Male and J. W. McIntosh.

(2) From the Secretary of the Victoria Benevolent Fund, returning thanks for the five guineas voted to the Fund at the last meeting.

(3) From the National Horse Society, who had forwarded a copy of their handbook.

(4) From the National Veterinary Medical Association, asking to be informed of the name of a representative who would serve on the Council, in addition to the Hon. Secretary. On the proposition of Mr. Gould, seconded by Mr. White, it was decided to nominate Captain R. E. Bullen.

(5) From the N.V.M.A., with reference to distemper immunisation.

Major Wood asked if any suggestion was made as to fees, to which Mr. White replied in the negative.

Mr. Gould remarked that, if he might make a suggestion, they should recommend the National to draw up a scale of fees for both single dogs and numbers of dogs vaccinated at the same time.

Mr. Gorton thought that what they wanted to get was a standard way of applying this treatment before they asked for a standardised scale of fees. At present, every veterinary surgeon seemed to have his own method of performing

* Received for publication, June 8th.

it—he did not mean as regarded the technique, but as to how many visits he paid.

Major Martin remarked that, if they followed the directions, they were supposed to be almost living with the dog.

Mr. Gorton said that the treatment was a most complicated one, and he was afraid it would never become really popular for that reason and its cost.

Mr. Gould could not agree that it was complicated; he mentioned that he considered absolute rest during the period of vaccination essential for successful results. He agreed with Mr. Gorton that that meant that one had to make at least two visits.

The President agreed with the remarks made by Mr. Gould, and considered that the technique could not be regarded as complicated.

Major Martin suggested that they might ask for a standardised method of vaccination, and also for a standardised scale of fees.

It was agreed that these suggestions should be forwarded to the N.V.M.A.

Major Martin suggested, in addition, that some reduction should be made in the cost of the vaccine and virus when a quantity was ordered.

Sessional Programme.—The next item on the agenda was " Papers for the Coming Session." The Hon. Secretary said that their President had been extremely busy in procuring help in this direction, with the result that they had a promise of a paper by Dr. Sheather on " Johne's Disease," when Mr. N. S. Barron was willing to open the discussion. Mr. Henry Gray had promised to give them a paper either on a single subject or on a variety of subjects, and Mr. H. Stainton, F.R.C.V.S., had kindly offered to open the discussion. They also had a promise of a paper by Sir Frederick Hobday sometime in the future. (Applause.)

Retiring Officers Thanked.—The President's address came next on the agenda, but before proceeding to give this, the President said there was one more thing they ought to do, and that was to place on record an appreciation of the services of Major Martin, as President. Major Martin took over the chair at a very difficult time, and he did his work remarkably well. He was sure they would also wish to thank Mr. Gould for his services as Hon. Secretary. (Hear, hear.)

Mr. J. B. White said he would like to second this, because he could see now how much work Mr. Gould must have put into his office. (Laughter.)

The proposition was agreed to with acclamation.

Presidential Address

The President (Mr. J. F. D. Tutt) then proceeded to give his address, which was in the following terms:—

I do not know which is the most difficult matter, to select a subject for a paper, or for a presidential address, but the latter has this advantage, that, like the poet, one is allowed a little licence.

With the problems with which we, as a profession, are faced to-day—and this is particularly so in the case of the general practitioner—it is obvious that we must have a closer co-operation and understanding amongst ourselves. The general practitioner has often been referred to as " the backbone of the profession," but I am afraid that in too many instances he proves rather spineless, by not standing up for his rights.

There has always been, and perhaps there always will be, a tendency for neighbouring practitioners to look upon each other with suspicion—a tendency which, from the commercial standpoint, may be explicable—but I think that a great deal of this personal feeling would disappear if we got to know each other better. The easiest and most obvious step to take in this direction is to join the nearest veterinary society and, by attending its meetings whenever possible, to get to know one another.

We are apt to lose sight of the fact that we are all colleagues and that there is nobody outside our profession with whom we can so readily exchange our views, and seek advice, as from each other. Hence the practice of meeting in friendly conversation and collaboration cannot fail to produce mutual benefit.

A great deal of discussion has taken place about the evidence given in cruelty cases, which does not reflect credit on us as a profession, and I am sure that a good many of these cases would never materialise if the veterinary surgeons on both sides were to meet, and decide on the matter, from the professional, and not the legal, aspect.

Much of the knowledge relating to various diseases and lines of treatment can only be obtained from the practical experience of the general practitioner, and it is a duty on his part to assist whenever he can do so. In order to increase the amount of clinical material for the *Veterinary Record*, the National has suggested that each Division should have a representative who shall collect, and encourage members to send, articles which will be of interest and value. I hope that those of you who come across cases, or points of interest, will not fail to report them. I think that a good many are averse to reporting failures, for fear of adverse criticism. This should not act as a deterrent, as constructive criticism is of mutual benefit. Destructive criticism can be ignored.

A point on which the general practitioner can assist, is the value or otherwise of the inoculation of cattle with living abortion vaccine, and its effect, if any, on subsequent fertility. Such

very remarkable statements are constantly made, that it is obvious that not a few do not have even a nodding acquaintance with the *Brucella*: in the words of a famous authority, they " chant in unison," and it would be of great service if they could be muzzled for a period, whilst the general practitioner collects actual facts.

I shall, no doubt, be crossing swords with some when I say that the time-honoured custom of drenching sick cattle with quantities of gruel should be consigned to the limbo of the past. Those who advocate and practice it have, I am afraid, forgotten all about the anatomy of the bovine and the factors of rumination: but how many cattle survive and regain their powers of rumination that have received large quantities of gruel?

The most important problem to which the general practitioner has to find a solution to-day, is the scheme recommended in the Report of the Milk Reorganisation Commission. Nobody will deny that the aims set forth in the Report are admirable, and I, for one, have always held that we, as a profession, will never have the standing that we should, until a whole-time veterinary service comes into operation, such as is the case in other countries. It is obvious, however, that unless we take a firm stand, and make our views known, the most lucrative part of many country practices will pass into other hands—under this scheme—a scheme formulated by a Commission which did not number one veterinary surgeon amongst its members, and who appear to have collected a mass of evidence from everybody except members of the veterinary profession.

With the gradual, I might say insidious, appointment of whole-time veterinary surgeons, in various capacities, and the proposed scheme of transferring the inspection of milk cattle and the application of the tuberculin test, lock, stock and barrel to whole-time men, it is apparent that the future of general practice is in jeopardy. I view all such appointments with a feeling of deep misgiving, and am bound to enquire, from what date has the general practitioner been regarded as incapable of carrying out these and other duties, which he has in the past carried out satisfactorily to all concerned? In cases of doubt, it has, I think, been the invariable custom for a veterinary surgeon to seek advice either from a reputed authority on the subject, or from a recognised research institute, and help has always been forthcoming.

Under the proposed Milk Reorganisation Scheme, it stands to reason that such appointments will, if they are made, be made from the ranks of recent graduates, or limited to those who possess qualifications additional to those essential for practising as a veterinary surgeon. I do not wish to be regarded as insulting when I say that, however brilliant a young graduate may be, he cannot, and will not, possess the practical knowledge essential to success, until he has been through the hard mill of general practice. I am firmly of the opinion that, provided the scheme is well handled, and the profession as a whole is admitted to it, it will be a success. It has been suggested that the general practitioner would not have the time to carry out microscopical and other examinations. At the present moment, in this county at any rate, this is done by the Laboratory of the County Medical Officer. In estimating the cattle population, the Commission divided the country into areas, and there is nothing to prevent the establishment of a whole-time veterinary service with laboratories complete for these areas, allowing the actual inspection and collecting of samples to be carried out by the general practitioner.

If a whole-time policy is persisted in, friction is going to arise, not only in the profession, but amongst stock owners, and I am afraid that not only is the general practitioner still unaware of the danger which menaces him, but that a good many eminent men in our profession do not know what they are talking about when they give a paternal blessing to such a policy. They were evidently either sound asleep, or blissfully unconcerned whilst the Commission was getting its Report drafted.

I am prepared to admit that the present system of inspection of dairy cattle is not satisfactory, nor do the present rules or regulations help one in the matter. Under the Milk and Dairies Act is it laid down that the owner of a herd, in which tuberculosis is suspected to exist, must receive at least 48 hours' clear notice of the day and time of the visit of the veterinary inspector appointed to examine his herd. In a Memorandum which I received from the County Medical Officer on March 29th last, this is laid down as follows: " On receipt of a notification from me of the finding of tubercle-infected milk in a particular herd, or of the seizure of the tubercle-infected carcass of a pig, or a bovine animal, the inspector will give me notice of an appointment to visit the herd. It is desirable to emphasise the fact that the appointment *must* be sufficiently far ahead to enable me to give adequate notice to the owner of the herd, so that he may, if he wishes, secure the attendance of his own veterinary surgeon."

It might also have been added—but experience shows that it is not necessary—that it affords the owner an excellent opportunity of taking steps to see that the probable animal, if he has any inkling of its identity, is missing at the time the inspection is made.

Tuberculosis being one of the scheduled diseases, we, who are veterinary inspectors in the wording of the *Diseases of Animals Acts*, are enjoined to proceed with all practicable speed to the place where the disease is suspected to exist; but, under the *Milk and Dairies Act*,

this notice beforehand to the owner is insisted on. Many an encounter have I had with the responsible authority for omitting to do so, and proceeding without notice, and thereby securing an animal which I know full well I should have missed if I had given the notice demanded.

The general practitioner has, in no small measure, been responsible for the increase in clean milk production, and the number of tuberculin-tested herds, and cannot be left out in the scheme now under consideration. The work must not be handed over to whole-time men, nor must it be confined to those already holding part-time appointments. The solution is, to let the owner's own veterinary surgeon carry out the work required, and examine all cattle quarterly, or at any rate every six months (in the case of tubercle-free herds). Check visits by an independent veterinary surgeon can be made when required. Let a whole-time department direct the scheme, and do away with one Ministry dealing with tuberculin tests, and another with the Tuberculosis Order, and put both under one head.

Whatever decision is ultimately reached by the profession as a whole, I do trust that it will be unanimous, and that we shall have none of the nonsense that has been experienced over the proposal to schedule Johne's disease: with one Society voting in favour of it being scheduled, and another as solidly against. The agricultural community is fully alive to the danger of this disease and its undoubted increase in many districts during recent years, and which, in view of the infectious nature of the diarrhœa, is a far greater menace to other stock than some forms of tuberculosis: but with the profession at sixes and sevens about the matter, it is quite impossible for agriculturists to join with us, and insist on it being made a scheduled disease. Those who are opposed to the notification of this disease bring forward, as their stock contention, that there is no certain method of diagnosing the disease in its early stages and before the damage is done. My contention is that we should have the power to seize such cases and prevent them from being sold when exposed in the open market, and so stop the spread of the disease to sound herds. As one who has to attend markets and fairs, I know how tied we are in this respect, and although I can often, with a little tact, prevail upon the vendor to take such an animal out of the sale yard, or advise the auctioneer that it should not be allowed to go through the sale ring, I know that, in reality, I have no statutory power. To check a disease, you must have control. We have no such control at the moment.

In concluding my address, let me once more urge upon you the necessity of getting together, and making the voice of this Society felt. My success as your President during my year of office will depend on the extent of your support. Like yourselves, I have been in general practice all my life, and I know that your troubles are my own. I am here to help you as far as it lies in my power. You, in your turn, must rally to my support. I will do my best not to let you down.

I thank you for your kind attention.

DISCUSSION ON THE MILK REPORT

Captain W. K. Townson, in rising to open what proved to be an interesting discussion on the Report of the Reorganisation Commission for Milk, congratulated the President on his address, which, he considered, had covered the ground admirably. He gave his views on the following points, on which the N.V.M.A. wished to obtain the views of practitioners:—

(*a*) As to the best method of carrying out the veterinary inspection of herds as proposed by the Commission.

(*b*) By whom such inspections should be made; and

(*c*) How many times a year herds should be inspected.

Mr. Maynard said that it seemed to him, speaking as a part-time man, that the whole matter would depend on the amount of money at their disposal. When the county councils were quibbling about guineas, as they were quibbling now, what were they likely to say when asked to do something, the cost of which would run into hundreds and thousands of pounds? Coming back for the moment, however, to the number of men who would be required, he saw it was roughly estimated that 300 would do the work: "But I can tell you," said Mr. Maynard, "300 will never do it. You have only to work out the figures for yourselves to realise that. One man is supposed to inspect something like 10,000 head of cattle three times a year. Worked out on a basis of six days a week, that means he has got to inspect on an average 100 cows a day throughout the year. He has got to be a very busy man to do that, and I am sure that 'he' will not be myself." There would also be a tremendous amount of writing attached to the work, to say nothing of the travelling; but his own idea was that the Report looked like being shelved.

Mr. Gould remarked that since this matter had been put on the agenda for discussion, he could speak more or less from an unbiased point of view, as he was not a part-time inspector, but a general practitioner. There were one or two important factors that they had to remember when dealing with this question. One was that there was no doubt the National Farmers' Union was strongly behind this. They were backing it up, lock, stock and barrel. It was not so much a question of finance as of influence, and if the National Farmers' Union were in favour of it, he was afraid they would find it would have to come, sooner or later,

regardless of what it might cost. Some counties, he believed, had already started. In one county, for instance, they had already appointed a Chief Veterinary Officer and were about to appoint three more full-time men, and he understood there were already applications, although the salary was only £350 a year. The next point he wished to make was, that it seemed obvious to him that there appeared to have been a great lack of consideration of the interests of members of the profession by both the controlling body of the College and the N.V.M.A. Everyone connected with dairying and with the farmers, had been consulted, but not the Veterinary Profession. He thought the Council of the College and also the Council of the National were open to great criticism, in that they had not put the views of the profession before the Milk Commission.

The President expressed complete agreement with Mr. Gould's statement. "There appears to be no doubt," he said, "that our leaders have been extraordinarily lethargic whilst this Report was being drafted. With regard to the future, the obvious solution, I think, is to let the farmer's own veterinary surgeon carry out the inspections when required. I consider that the laboratories should be manned by men with a veterinary qualification, and that the administrative part should be done by a whole-time veterinary officer, but let the general practitioner carry out the field work (inspection of cows and collecting of samples). It is absurd allowing examinations of milk samples to be done, as at present, by men with a medical, or, as it often happens, with no qualification whatsoever. As a part-time inspector myself, I know that it would be impossible for me to carry out inspections of all the cattle in the divisions in which I at present act. Under no circumstances should a whole-time or part-time veterinary service be under the control of a County Medical Officer of Health. The fairest and sanest method is, in my opinion, what I have stated at length in my Presidential address."

Mr. Gould remarked that the great "grouse" of the Medical Officers of Health appeared to be the lack of uniformity. They knew that existed, but it was not the veterinary surgeons who were to blame. They were tied by those in authority. In some parts of the county a cow was accepted under the Tuberculosis Order only when an absolute wreck. This was a matter they must really attend to, and the only way to do it was to make themselves heard. Let the part-time inspectors get together and form a committee, with a view to getting their own men to go as delegates to the National, or further if necessary. There were not enough general practitioners on the Council of the R.C.V.S. or on that of the National. They ought to get their own delegates on these Councils and see that their views were considered in all matters affecting the general practitioner. His own view was that some sort of panel system of examination of the cows could be evolved, resembling in administration the panel scheme for human beings. Either the farmer could choose the veterinary surgeon who should examine his cows, provided he was on the panel, or the herds in a certain area could be allotted. In this the part-time man would continue, and extension to other general practitioners would be necessary. A central full-time head would serve to co-ordinate the work.

Mr. Gorton observed that Mr. Maynard seemed to think this Report would be shelved. If that was so, they need not bother to do anything.

Mr. Maynard: "I do not think I went so far as that."

The President: "But in any case we want to be ready."

Mr. Gorton said his own opinion was that if this was not shelved, and if the Government found time to bring in a Bill to put these recommendations into force, the veterinary surgeons would have to take it, whether they liked it or not, in the same way as the Pharmaceutical Society had to do. He agreed that the National had not done all they might for them, but how many general practitioners had ever taken the trouble to write to the Council? "I do myself," he said, "but how many others do?"

The President remarked that, although the responsible bodies were open to criticism, it had to be remembered that the National did not receive the whole-hearted support that it should from the Veterinary Profession, and he considered that it should have the power which the British Medical Association enjoyed. The membership total of the National, when compared with the total on the Register of the R.C.V.S., did not indicate the enthusiastic support from the profession which it merited. It had done, and was constantly doing, good work, but until members regarded it as their duty to join it, on graduation, it could not become the effective fighting machine that they wished. He thought that they ought to send forward their answers to the questions that had been put to them, whether the Report was shelved or not.

Major Wood asked Mr. Gould what grounds he had for saying the National Farmers' Union was in favour of these proposals, adding: "I should have thought the farmer was already fed up with inspections."

Mr. Gould replied that he could only tell them that a very prominent member of the National Farmers' Union had told him that their Council were enthusiastically in favour of it, and were pushing it for all they were worth.

Mr. Barron remarked that he could support Mr. Gould here, and Captain Townson said that Mr. Gould was quite right in what he said with reference to the National Farmers' Union

backing this scheme. He himself had asked a farmer what he thought they were going to get out of this whole-time service, and he replied that they would get free tests for their cattle and free examinations. He pointed out that the cost would have to come out of the rates, but he was told that did not matter, because the farmers were already derated. What with full-time and part-time inspectors, they would find that the ordinary veterinary surgeon would not be required.

Mr. Tyler, speaking as a visitor, remarked that he thought it was up to the general practitioner to do something in this matter, because they were "already in the last ditch" as far as he could see. It had always been the same. The general practitioner—who, to his mind, was the best man to advise, certainly on the practical side of the administration of these things, and also to do the clinical examination—was never consulted, or, if he was consulted, it was not until after it had become an accomplished fact. He knew there were arguments to be advanced against this, but he thought they should rub it in as strongly as they could that they should be left with these powers. (Applause.)

In the course of further discussion, various suggestions were made for the drafting of a suitable resolution to be sent in reply to the N.V.M.A., and it was eventually agreed, on the proposition of Mr. Gould, seconded by Mr. J. B. White, that it should be in the following terms:—

"That this Society is of the opinion that one whole-time administrative veterinary officer should be appointed for each county to co-ordinate the veterinary inspection of cattle in that county: that established part-time veterinary officers, with an extension where necessary, on account of the density of the cattle population, to established and experienced veterinary surgeons practising in the county, are the veterinary surgeons capable of undertaking a proper, thorough and satisfactory inspection of cattle under this Commission Report; and that the number of inspections should be three per annum."

A resolution was also unanimously passed "That the Royal College of Veterinary Surgeons, and the National Veterinary Medical Association should, during the sitting of the Reorganisation Commission for Milk, have taken steps to see that the work and views of the Veterinary Profession were adequately represented before that Commission."

With the permission of the President, Mr. Barron and Mr. Thomas, of Reading University, addressed the meeting, inviting the co-operation of general practitioners in the collecting of detailed information for the purpose of tabulating and preparing some reliable statistics as to the incidence of the various cattle diseases.

On the proposition of the President, seconded by Mr. Gorton, a hearty vote of thanks was accorded to Captain Townson for coming all the way from Peterborough and addressing the meeting on the Report of the Reorganisation Commission for Milk.

It was decided to hold the next meeting at Bournemouth in September, on a date suitable to Dr. Sheather.

Tea was afterwards taken at the invitation of the President, who was informally, but none the less enthusiastically, thanked for his hospitality.

J. B. White, *Hon. Secretary.*

* * * * *

NORTH OF ENGLAND V.M.A.*

MEETING AT NEWCASTLE-ON-TYNE

A meeting of this Division was held in the Agricultural Department, Armstrong College, Newcastle-on-Tyne, on June 17th, 1933, when the chair was occupied by the President, Mr. H. S. Elphick, and the attendance book was signed by the following: Messrs. W. J. Young, T. R. Jarvie, J. Stewart, W. L. Stewart, A. C. Forbes, J. H. Taylor, F. Pickering, C. Nicholson, C. G. Hill, C. Elphick, H. Thornton, F. Christopher, W. B. Towell, W. H. Blackburn, P. Snaith, J. W. Rider, H. P. Lightfoot, T. Wilkinson, L. E. Perkins, E. R. Callender, J. D. Peele, W. A. Doughty and J. R. Rider, Hon. Secretary. Apologies for absence were received from Dr. Bradley, Messrs. J. J. McDowall, R. Simpson, H. Peele, F. J. L. Croudace and H. Hicks.

The minutes of the previous meeting were taken as read and approved. Arising out of the minutes, the Secretary reported the receipt of communications from (1) the Victoria Veterinary Benevolent Fund thanking the ladies of the Division for their contribution of £30, being the proceeds of their Annual Effort on behalf of the Fund; (2) from Mr. N. Dobson, thanking the members for their welcome on the occasion of the Annual Meeting; (3) from Sir Frederick Hobday, thanking the Division for their letter of congratulation on his receipt of the honour of knighthood; (4) from Earl Grey, and the Secretary of the Alan Duke of Northumberland Memorial Fund Management Committee, stating that steps would be taken to co-opt the nominees of the Division as members of the Committee of Management.

Obituary.—The President said that since the last meeting the Division had lost one of its older members by the death of Mr. J. Dixon, of Blaydon. He had represented the Division at the funeral, and a letter of sympathy and a wreath had been sent on behalf of the members. A reply had been received from Mrs. Dixon, and he now asked the meeting to express its sympathy by standing in silence for a moment.

* Received for publication June 20th.

Correspondence.—A confidential letter from the N.V.M.A. was read to the meeting, and after some discussion it was decided that the matter should be remitted to the Council for full consideration and report to the next meeting.

A letter from the Southern Counties Veterinary Society, expressing the views of that Division on the Report of the Reorganisation Commission for Milk, was read to the meeting.

Nomination of Representatives to the Council, N.V.M.A.—It was decided to nominate, for a further period of service, the Division's representatives—Messrs. J. H. Taylor and T. Wilkinson, together with the Hon. Secretary.

Report of the Council Meeting.—The Secretary read the report of the Council meeting, held on May 3rd, 1933. It was explained that very careful and prolonged consideration had been given to the Report of the Reorganisation Commission for Milk, and the Council finally decided to issue copies of its observations on the Report to all members of the Royal College of Veterinary Surgeons in the area, inviting them to attend the meeting to be called to consider the matter. The Council also decided to recommend that Mr. W. L. Stewart be nominated to represent the Division in the Golf Competition to be held at the Annual Congress, in aid of the Victoria Veterinary Benevolent Fund.

The report of the Council was received and adopted.

Election of New Members.—The President proposed, and the Hon. Secretary seconded the election of Mr. H. Thornton, Assistant Veterinary Officer to the city of Newcastle-on-Tyne, and the proposal was carried unanimously. Mr. Thornton, in returning thanks for his election, said he hoped that the Division would make full use of the facilities available in Newcastle, if at any time it was desired to hold a demonstration in connection with matters of public health.

After some discussion concerning the rule governing the election of Honorary Members, the meeting decided to remit to the Council, for consideration and report, a proposal to elect an Honorary Member.

Nominations.—Mr. C. G. Hill nominated, for election at the next meeting, Mr. A. L. Bartholomew, Darlington.

Report of the Reorganisation Commission for Milk.—The meeting proceeded to consider the observations of the Council on this matter, which had previously been circulated. Some slight amendments were introduced, and after a full discussion it was agreed that the memorandum, as amended, should be forwarded as the Division's reply to the letter, dated April 6th, from the N.V.M.A.

Any Other Business.—The Secretary called the attention of the meeting to the existence of the Pension Scheme formulated by the N.V.M.A., and the President advised members to give this matter careful consideration.

The Secretary also asked for instructions with regard to the renewal of the subscription to Messrs. Lewis's library, and after some discussion it was agreed that the subscription should be renewed. The hope was expressed that more members would take advantage of the exceptional facilities offered by the scheme.

Mr. Hill said he did not wish the meeting to close without an expression of appreciation of the enormous amount of work which the Council had done in preparing its memorandum on the Report of the Milk Commission, and he was sure that without having that memorandum before them they could never have completed the consideration of the subject so expeditiously. He wished to move a very cordial vote of thanks to the Council for their labours. The meeting unanimously supported Mr. Hill's tribute, and the President made a suitable response on behalf of the Council.

A hearty vote of thanks to the President for his conduct in the chair terminated the proceedings.

J. R. Rider, *Hon. Secretary.*

* * * * *

WEST OF SCOTLAND V.M.A.*

SPECIAL MEETING AT GLASGOW

A Special Meeting of the Division was held in the Royal Hotel, Glasgow, on Wednesday, June 14th, 1933.

The President, Mr. J. F. Taylor, occupied the chair, and the following members were present: Messrs. P. Meikle, D. Brown, H. H. Brodie, P. McIntyre, R. Renfrew, J. M. Mitchell, A. Cruikshank, A. Sillars, W. Anderson, W. Harley and A. Thomson, Hon. Secretary. Mr. R. S. Marshall, an old member of the Division, now stationed in Nigeria, was present as a visitor.

The minutes of the last meeting, as printed in the *Record,* were taken as having been read and signed as correct.

Apologies for unavoidable absence were intimated from Professor Weir, Professor Robb, Messrs. John McFarlane, James McFarlane, D. Campbell, J. G. McGregor and Dr. A. W. Whitehouse.

A letter was read by the Secretary from Mr. H. F. Downie, Falkirk, intimating his resignation from the Division as he found it impossible to attend the meetings.

The Secretary, who was asked if he thought it possible that Mr. Downie might be induced to change his decision, replied that he had written asking him to do so, but no reply had been received. It was agreed to accept his resignation with regret.

Representation on Council, N.V.M.A.—It was pointed out by the Hon. Secretary that as the

* Received for publication June 26th.

membership of the Division is 43, the Division was entitled to appoint a representative for every 35 members, in addition to the Secretary.

In addition to the present representative, Dr. A. W. Whitehouse, it was agreed that Mr. James Macfarlane be asked to represent the Division.

Reports

The special business of the meeting was to consider (1) a report from the Executive Committee on a remit from the Division's last meeting on the Report of the Reorganisation Commission for Milk; (2) a letter from the N.V.M.A. advising consideration of the fees chargeable in distemper immunisation.

The Secretary read the report of the Committee and it was agreed to adopt it, with two alterations, *viz*: (1) that instead of the suggested minimum of three inspections of herds per annum, a minimum of four should be advocated; (2) that instead of 15s. per animal, 12s. 6d. be charged for carrying out preventive inoculation for canine distemper, where done at the Surgery: where done away from the Surgery the usual visit fee to be added.

The findings of the Division on the Report of the Reorganisation Commission for Milk were as follows:—

The Division are agreed that the creation of a whole-time veterinary service, as outlined in the Commission's Report, would only meet the needs of the milk industry and paid no attention to the problems of a veterinary nature that arose in connection with general agricultural interests, *i.e.*, the meat, pig, and poultry industries, animal husbandry as a whole and the provision of general practitioners for country practice.

From our point of view these interests are of equal importance with the milk industry, and the Division feels that to deal with one to the exclusion of the others would be a short-sighted policy from a national point of view.

The Division feels that, by the operation of the scheme outlined by the Commission, a great many general practitioners would have to give up practice by force of circumstances, opening up the field for quacks, and that, by the time the scheme had reached its logical conclusion, *i.e.*, the necessity of a whole-time service for all veterinary matters, men trained in general practice would not be available.

The Division suggests that the Council, N.V.M.A., be asked to consider the construction of a scheme for a State Veterinary Service which would be comprehensive of all questions relating to Public Health and Animal Welfare.

The Division appreciates the recognition of the necessity of a veterinary service shown by outside interests, and, while not wishing to alienate that interest, thinks it would be desirable to point out to those concerned the pitfalls which would arise unless a broader outlook of the matter be taken.

Alternatively, if the Milk Reorganisation Commission's scheme is to be proceeded with, the Division is of opinion that the scheme *must* take into consideration the utilisation in full of the services of the general practitioner.

In answer to the specific questions set out in the letter from the Council, N.V.M.A.:—

(*a*) As to the best method of carrying out the veterinary inspection of herds as proposed by the Commission.—The Division are of opinion (1) that a Chief Veterinary Officer for an administrative area is necessary in the carrying out of any State scheme; (2) that this officer should utilise to the fullest extent the services of local practitioners in the area, for all necessary duties.

(*b*) By whom such inspections should be made.—By the general practitioners in the area willing to undertake the work, with periodic inspections, in a supervisory capacity, by the C.V.O., which would allow of his appreciating the standards of inspection and so tend towards a uniformity of standard.

(*c*) How many times a year should herds be inspected?—This question would, to a great extent, lie in the hands of the C.V.O., depending on the kind of stocks in the district (flying stocks, etc.). A minimum of four inspections is recommended.

. . . . . .

Following this, discussion arose as to the present methods adopted in some counties regarding the charges for testing Certified herds. It was pointed out that in some counties the fee charged was £1 1s., irrespective of the number of animals in the herd or the distance from headquarters.

In some counties the work is done by the local practitioners, under the supervision of the County Veterinary Officer, and the usual fees are charged to the farmer by the practitioner. This scheme works very well: everyone is satisfied. This system will stimulate the practitioner to interest farmers in the eradication of tuberculosis from their herds, whereas the other method tends rather to an attitude of passive resistance being adopted.

If the N.V.M.A. could bring pressure to bear in the proper quarter to induce the local authorities to give more consideration to the claims of the practitioners, they would be performing not only a duty to the profession, but also to the community, by fostering a united effort in the fight against tuberculosis.

There being no other business, the meeting terminated with a vote of thanks to the Chairman for his conduct of the proceedings.

Alex. Thomson, *Hon. Secretary.*

Evidence has been obtained indicative that pasty eyes in ducklings is a nutritional disease amenable to the administration of cod-liver oil to the breeding ducks.—*Mich. S. C. Agr. Exp. Sta. Rpt.*

NORTH WALES V.M.A.*

MEETING AT DENBIGH

A meeting of the North Wales Division was held at the Bull Hotel, Denbigh, on Friday, June 23rd, at 2.15 p.m.

The chair was occupied by the President, Mr. R. L. Lewis, M.R.C.V.S., D.V.H., other members present being Messrs. H. Burrow, J. Cane, C. W. Cartwright, T. W. Hughes, H. Llewelyn-Jones, W. O. Jones, R. F. Montgomerie, G. Jones Roberts, W. T. Rowlands, D. M. Storrar and J. H. Wynne.

Apologies for unavoidable absence were received from Mr. A. Bate, Sir F. T. G. Hobday, Messrs. H. V. Hughes, W. Hughes, W. H. Savage and E. P. Edwards.

The minutes of the previous meeting were taken as read, received and adopted.

Obituary.—The President referred to the recent losses which the Division had sustained in the deaths of two members: the late Mr. J. Matthews, Llanfair P. G., and Mr. F. Booth, senr., Colwyn Bay; and also to the bereavement which Major D. M. Storrar had suffered.

The members stood to pass a vote of condolence with the families of the two deceased members and with Major Storrar.

Correspondence.—(1) From Sir F. T. G. Hobday, acknowledging the Division's congratulations on his knighthood.

(2) From Captain J. D. Broome, tendering his resignation from membership of the Division following his removal from the district. It was resolved that Captain Broome's resignation be accepted with regret.

Election of Fellow.—On the proposition of Mr. Llewelyn-Jones and seconded by Mr. Wynne, Major D. M. Storrar, of Prestatyn, was elected a Fellow of the Division.

Nomination of Fellow.—Mr. T. W. Woodhead, M.C., M.R.C.V.S., the Ministry of Agriculture and Fisheries Inspector stationed at Ruthin, was proposed for nomination by Mr. J. H. Wynne and seconded by Mr. J. Cane.

Election of Representatives on the Council of the N.V.M.A.—Mr. E. P. Edwards and Professor Share-Jones were elected to act with the Hon. Secretary (*ex-officio*) to represent the Division.

The meeting went into committee to receive and discuss two confidential letters sent by the N.V.M.A.

Milk Commission's Report.—In open meeting, the President asked Mr. Llewelyn-Jones to open a discussion on the Report of the Reorganisation Commission for Milk. Mr. Llewelyn-Jones favoured the meeting with a very able survey of the Report and its recommendations. The President asked that the discussion should cover Mr. Llewelyn-Jones remarks and a communication from the N.V.M.A. seeking the Division's views on the method of carrying out the clinical inspection of dairy cattle. A lively and sustained discussion followed, to which all members present contributed, many very interesting points being put forward for consideration. The following resolutions were passed in reply to the inquiries from the N.V.M.A.:—

(1) "That in the opinion of the North Wales Division the routine inspection of dairy cattle can best be carried out by all the veterinary surgeons in each county being duly appointed as part-time veterinary officers acting under the guidance of one, and one only, whole-time Chief Veterinary Officer in each county."

(2) "That, as a minimum, three inspections be carried out each year."

Victoria Veterinary Benevolent Fund.—It was resolved that a contribution of £2 2s. from the Divisional funds be made. A collection taken at the meeting amounted to 15s. 6d.

The Next Meeting.—It was resolved that the next meeting be held in Rhyl, the detailed arrangements being left in the hands of the President and Secretary.

The President then moved a vote of thanks to Mr. Llewelyn-Jones for his able opening of the discussion, and this was carried with acclamation.

Thereafter the President and members took tea in the garden of Mr. and Mrs. H. Llewelyn-Jones, and after a very pleasant repast the hosts were thanked for their hospitality, on the proposition of the President.

H. V. Hughes, *Hon. Secretary.*

* Received for publication June 29th.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

* * * * *

DIARY OF EVENTS

July 31st.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

Aug. 4th.—Summer Meeting of the Royal Counties Division, N.V.M.A., at R.A.F. Camp, Halton, near Wendover.

Sept. 18th-23rd.—N.V M.A. Congress, Llandudno.

Sept. 25th-26th.—R.C.V.S. Jubilee Memorial and Bursary Prize Examination.

Oct. 4th.—R.C.V.S. Committee Meetings.

Oct. 5th.—R.C.V.S. Registration Committee.

Oct. 6th.—R.C.V.S. Committee and Council Meetings.

* * * * *

PERSONAL

Veterinary Representative on R.S.P.C.A. Council

In our recently-published review of the Annual Report of the Royal Society for the Prevention of Cruelty to Animals, we reproduced the tribute

paid by the Society to the valuable services rendered by Lieut.-Colonel P. J. Simpson D.S.O., F.R.C.V.S., as a *liaison* representative of the veterinary profession on the Council of that body. It is gratifying to learn, therefore, that our President, in his private capacity, has again been elected as a co-opted member of the R.S.P.C.A. Council, and has also been asked to serve on various committees.

* * * * *

University of London: Diploma in Bacteriology

Miss A. V. Greener, M.R.C.V.S., of the London School of Hygiene and Tropical Medicine, has been awarded the Diploma of Bacteriology of the University of London.

* * * * *

University of Edinburgh: Diploma in Veterinary Tropical Medicine

At the Graduation Ceremony held at the University of Edinburgh, Messrs. Farzand Ali, M.R.C.V.S., and Moreshwar Yado Mankrulkar, M.R.C.V.S., were awarded the Diploma in Tropical Veterinary Medicine.

* * * * *

INTERNATIONAL VETERINARY CONGRESS

At a meeting of the Permanent Commission of the International Veterinary Congress held in Paris recently, Dr. Emmanuel Leclainche, Chief of the Government Veterinary Services in Paris, was elected President, to succeed the eminent bacteriologist, Dr. Francis von Hutyra, Rector of the Royal Hungarian Veterinary High School, Budapest, Hungary, who resigned the office on account of serious illness. Dr. John R. Mohler, Chief of the United States Bureau of Animal Industry, was elected Vice-President. Dr. Mohler also is Treasurer of the Organising Committee of the Twelfth International Veterinary Congress.

* * * * *

KINCARDINE REJECTS REGIONAL SERVICE SCHEME

Part-time Veterinary Inspectorship to Continue

At a recent meeting of the Kincardine Public Health and Diseases of Animals Acts Committee, a letter was read from the Town Clerk of Aberdeen regarding the formation of a regional veterinary service. The proposal was to have a joint service for Aberdeen city, Aberdeen county, and the county of Kincardine. The estimated cost of the proposed arrangement, so far as Kincardine was concerned, was for salaries, etc., £247 10s. rising to £281 5s. That covered practically only work done under the Milk and Dairies Acts and the Tuberculosis Order, and was exclusive of travelling expenses. In addition, there would be compensation for loss of office payable to present inspectors. The present cost of these services, including travelling expenses, was £435.

Mr. James Findlay, Balquharn, spoke in favour of the proposal. In the north end of the county a large quantity of the milk went to Aberdeen, and he thought it advisable that, as Dr. Rae was their chief medical officer and had practically the oversight of the milk going into Aberdeen, he should have charge of the veterinary inspection. At present he thought they paid too much for inspection in North Kincardine.

Mr. A. Spence, Commieston, said that he had always been against this amalgamation. He could not see that it would make for efficiency. He noted that they would have to pay one-eighth part of the salary, which showed how much attention they would be likely to get. By depriving their present inspectors of their work they would be depriving many districts of the services of a veterinary surgeon, as there would not be a living for them otherwise.

Mr. John Hunter, Nether Toucks, expressed himself as against the proposals, as the veterinary surgeon would require an office at Stonehaven and a clerk, and that would add to the expenses.

It was eventually decided not to agree with the proposal, but to reorganise the present veterinary services and readjust salaries.

* * * * *

CLAIM FOR DAMAGES AGAINST VETERINARY SURGEON

Successful Defence

At Liverpool County Court on the 10th inst., Samuel John Silver, a dog breeder, of Liverpool, surgeon, alleging negligent treatment of a seven-claimed damages from James White, veterinary months-old Great Dane. The dog was affected with a cyst of the elbow (capped elbow) and it was alleged that the animal had been operated on without the owner's authority, and that it had been subsequently neglected and through lack of muzzling had torn out the stitches. It was further alleged that inadequate bedding was provided for the dog.

The owner stated that he requested defendant to tap the cyst. The dog had been operated upon in June, 1932, and the wound was still unhealed. He claimed £50 damages for the cost of invalid food and dressings and depreciation. Mrs. Silver, in supporting the case for the plaintiff, stated that she was present when the dog was left, and she understood that the cyst was to be lanced.

Ronald White, veterinary surgeon, son of the defendant, stated that the dog was brought to him with a request that he would operate on the dog for cyst of the elbow and that he would "slip it out." He advised massage and prescribed absorbent ointments. At a later date the dog was again brought, with the request that he would "slip it out," as the other treatment had not been effective. He accordingly operated on the dog and dissected out the cyst. He gave it every possible attention. The operation was skilfully performed and proper treatment given, adequate bedding was provided with fresh straw each day, and the wound dressed daily.

James White, veterinary surgeon, defendant, stated that the operation was properly carried out and every attention given to the case.

Professor Wooldridge, Royal Veterinary College, London, gave evidence on behalf of the defendant. He pointed out the difficulty of control of the young Great Dane, and of obtaining satisfactory healing of operation wounds at the point of the elbow. He did not agree that it would be wise to keep a seven-months-old Great Dane permanently muzzled. He considered the delay in healing of the wound was due partly to the movement of the point of the elbow and partly to the weight of the dog when lying down, causing pressure on the operation area. He had examined the dog and pointed out that there was another cyst on the elbow of the other limb, which had apparently developed since the date of operation. He expressed approval of the treatment as carried out by Mr. White.

Other evidence in support of the defendant was given by Professor J. G. Wright, Royal Veterinary College, London, and Mr. William Woods, F.R.C.V.S.

The jury returned a verdict for the defendant, with costs.

The defence to this action was carried through by the National Veterinary Benevolent and Mutual Defence Society.

FOWL CHOLERA

In the House of Commons recently, Major Carver asked the Minister of Agriculture if there have been any new outbreaks of fowl cholera, and, if so, where; whether the source of the disease has been traced; and what steps are being taken to prevent further importations of live poultry from the same source?

Major Elliot: Since the occurrence of the disease in Norfolk and Suffolk was brought to my notice, I have received information of two further outbreaks near Wymondham and Diss in Norfolk, and one at Chichester among poultry sent from Norfolk. The source of the disease is not yet established but inquiries are proceeding. The third part of the question does not therefore arise at the moment.

* * * * *

GYMKHANA FOR THE ROYAL VETERINARY COLLEGE

It is hoped that as many members and friends of the profession as possible will make their way to-day to Stone's Riding Club Meadow, Claygate, near Esher, Surrey, where a mounted gymkhana will be held in aid of the Royal Veterinary College. Over 100 entries had been received by the end of last week for the highly-attractive programme of events, which comprises a score of interesting items, and which will occupy a full day from 11 a.m.

* * * * *

MEDICAL RESEARCH COUNCIL SECRETARY

The Medical Research Council have appointed Professor Edward Mellanby, M.D., F.R.C.P., F.R.S., to be their Secretary in succession to the late Sir Walter Morley Fletcher. Dr. Mellanby, who has been Professor of Pharmacology in the University of Sheffield since 1920, is at present a member of the Council. He will not assume full duty as Secretary until next January.

The Secretary of the Medical Research Council is *ex-officio* Secretary of the Committee of Privy Council for Medical Research.

* * * * *

BRITISH MEDICAL ASSOCIATION

101st Annual Conference at Dublin

The one hundred and first annual conference of the British Medical Association opened with the representative meeting in the Royal Dublin Society's Hall at Ballsbridge, Dublin, on July 21st. Mr. Sean T. O'Kelly, Free State Minister for Local Government, and Alderman Byrne, Lord Mayor of Dublin, welcomed the delegates. Dr. E. K. le Fleming, of Wimborne, presided, and Dr. F. W. Ramsay, consulting surgeon to the Royal Victoria Hospital, Bournemouth, and the Victoria Hospital, Wimborne, was chosen unanimously as president-elect of the association for 1934-35.

It was announced that the total membership of the association was 35,000.

Sir Henry Brackenbury moved that the annual meeting of the association in 1935 be held in September in Melbourne, and this proposal was adopted unanimously.

Professor Thomas Gillman Moorhead, Regius Professor of Physic, Dublin University, the president-elect of the association, welcomed the visitors on behalf of the Leinster branch of the association.

The Chairman, returning thanks for the welcome, said that the medical and other considerations to which they attached great importance were vital to the health of the country. Any deliberations of theirs, any conclusions at which they might arrive, that did not harmonise with the public interest were waste of time. Their deliberations, though apparently largely professional, were invariably linked with the public welfare.

Dr. W. G. Willoughby and Dr. Alfred Cox were elected vice-presidents of the association.

Medical Education

An interim report of a special committee on medical education was presented by Sir Henry Brackenbury. He said that one of the main changes proposed was that before entering upon the medical curriculum the medical student should have given evidence of some higher degree of attainment in some subjects of general education than at present, and should have been grounded fundamentally in the general principles of chemistry, physics, and biology.

Sir Ewen Maclean said that the urge in connection with the proposed changes in the curriculum had come from America. There were 25,000 surplus doctors in the United States. Here we were not so far pressed as that, but the time would come when a higher standard in regard to the entrance and the study of medicine would be fully justified.

The interim report was approved.

Advertising Public Services

The following resolution was moved by the Chairman of the Ethical Committee:—

That the advertisement of public medical services (including the employment of agents to bring such schemes to the notice of potential subscribers) would not contravene the generally accepted view of the profession that the practice of or association with advertising by individual practitioners is contrary to the public interest and discreditable to the profession of medicine, provided that the following conditions are satisfied:—

(*a*) That the public medical service is approved by the profession in the area as being in the public interest, any relative decision to be taken at a meeting of the profession summoned by the British Medical Association;

(*b*) That it is the "service" which is advertised *qua* "service," and not any individual medical practitioner;

(*c*) That membership of the "service" is open to any registered medical practitioner living or practising within the area concerned;

(*d*) That an arrangement exists whereby subscribers electing to choose non-co-operating practitioners can receive payments towards the discharge in part or in full of their medical accounts;

(*e*) That all prospective subscribers, when approached, are advised to consult their own doctor, the phrase "Consult your own doctor" to appear on all stationery and propaganda issued by the service.

The Chairman explained that the Council took the view that public medical services ought to be allowed greater freedom of advertisement. Hitherto a practitioner member of the service had been his own advertising medium, and had brought the available benefits under the notice of his own patients, fearing that by associating himself with fuller and freer methods of advertisement he would be in danger of being accused of contravening the warning notice of the General Medical Council as to advertising and canvassing.

There was a lively discussion, in the course of which Dr. MacCarthy, of Birmingham, said that

as a result of publicity 230 doctors joined the public medical service in Birmingham, and 12,000 patients were treated. The poor man had a right to his own doctor.

Sir Henry Brackenbury said that publicity ought to be given to the public medical services under certain safeguards, and the original motion, with a slight amendment, was adopted by a large majority.

Vivisection

Dr. L. A. Parry, Brighton, moving that a committee be appointed by the Council to consider the whole question of experiments on animals, said that the public were gravely concerned in this matter. The question had been investigated for many years, and there was now a very large number of medical men who were beginning to have grave doubts whether experiments on animals were justified by the results obtained. There were many reasons to show that experiments on animals were not leading to good results, and were holding back the progress of medicine. The practice of vivisection was futile, harmful, and immoral. He simply asked for investigation of the matter by a committee which would deal with it impartially.

Dr. Souttar moved an amendment, which was carried as a substantive motion, to the effect that the meeting was convinced of the immense value of experiments upon animals in the progress of medicine and relief of human suffering, and was fully satisfied with the safeguards under which alone such experiments could be conducted in Great Britain and Ireland. Dr. Souttar added that he need only remind the meeting of the story of insulin and the diphtheria antitoxin. After hearing the story, the medical practitioner who said that experiments on animals were useless had better consult a mental specialist.

(To be continued.)

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

* * * * *

VETERINARY INSPECTION OF DAIRY COWS IN CHESHIRE

To the Editor of the Veterinary Record

Sir,—In the current issue of the *Veterinary Record,* Captain W. K. Townson is reported to have said, when opening a discussion on the Report of the Reorganisation Commission for Milk, that in the County of Cheshire 21 part-time veterinary officers were to be superseded by five whole-time men, and that he ventured to prophesy that it would be found impossible for those five men to inspect the same number of cattle that the 21 part-time men previously employed on that work had been asked to inspect.

It may interest Captain Townson and others to know that in Cheshire the part-time veterinary officers have not inspected any cattle under the Milk and Dairies Order, and, as far as the Tuberculosis Order is concerned, only the animals actually reported have been examined by them. It would appear, therefore, that the mantle of the prophet has not fallen on Captain Townson's shoulders.

In the same issue of the *Veterinary Record,* Mr. Hall Masheter again writes at some length on the subject of veterinary inspection in Cheshire, and lest any credulous member of our profession takes him seriously, I feel obliged to state that, so far, anything he has written concerning veterinary inspection in Cheshire, points to a devastating and complete ignorance of the conditions existing in this county. Even when dealing with the financial side of the question, Mr. Hall Masheter has been grotesquely inaccurate in all his statements save one, namely, the salary attached to the position of District Veterinary Officer. I congratulate him on this solitary success.

The object of this letter is not to express resentment at any legitimate criticism of whole-time veterinary services. Indeed, to my mind, free discussion of the subject is highly desirable.

I do, however, suggest that those participating in such discussions should limit their observations to the extent that one may accept them as being at least reasonably accurate and value them accordingly. Lastly, I have no intention of writing further on this subject. Had Captain Townson not quoted Cheshire in his address, I would have been spared the painful necessity of penning this distasteful letter.

Yours faithfully
A. B. Kerr,
County Veterinary Officer.

Cheshire County Council,
Public Health Department,
24, Nicholas Street,
Chester.
July 25th, 1933.

* * * * *

VAGITUS UTERINUS

To the Editor of the Veterinary Record

Sir,—Under the heading "Some Notes on Vagitus Uterinus," Dr. E. C. Clouston records, in the *British Medical Journal,* February 4th, 1933, his own experiences of a case of a child crying *in utero,* and also such cases of the same phenomenon met with by other practitioners which have been recorded. I have the authority of the Editor of the *British Medical Journal* to quote from this article.

In order to place on record the experiences of veterinary surgeons who have themselves heard the call of the young of any species *in utero,* I would be grateful if practitioners would send me a concise note on any cases met with, specially mentioning the duration of labour, the presentation, the period elapsing between the call being heard and the delivery of the young animal, and whether the animal was delivered alive or dead, etc.

I would then publish the whole series of cases,* together with one in my own experience, as a record of the phenomenon as met with by veterinary surgeons.

Yours truly,
Lindsay Auchterlonie.

63-65, Ilkeston Road,
Nottingham.
July 25th, 1933.

* * * * *

ETIOLOGY OF "GRASS DISEASE"

To the Editor of the Veterinary Record

Sir,—The undersigned are making an investigation into the etiology of "grass disease" in horses, paying special attention to the botanical

* Under the new Divisional Scheme.

side. They would be grateful if interested practitioners would send specimens of the herbage—this should include flowering plants, rushes, mosses, fungi, etc., and should be enclosed in a tin box—from definite "grass disease" fields of recent date. Information as to the nature of the soil and, where possible, of the underlying rock, with particulars of manuring, would assist.

Yours faithfully,
Oscar Stinson.
W. A. P. Sprott.

"Charnwood,"
Appleby,
Westmorland.
July 23rd, 1933.

* * * * *

"FOWL PARALYSIS": (*NEURO-LYMPHOMATOSIS*)

To the Editor of the Veterinary Record

Sir,—I have read with great interest the lecture by Dr. H. P. Bayon in your edition No. 28, Vol. xiii, dated July 15th, 1933, and I wish to mention the two following facts concerning "fowl paralysis":—

(1) Brains removed from affected birds after death, emulsified and filtered through a Seitz filter, sometimes transfer the disease to susceptible fowls on subcutaneous inoculation round the occipital region.

(2) Brains taken after death, emulsified in normal saline, 1 gram by weight to 20 c.c. sterile normal saline, to which 20 c.c. pure glycerine are then added and finally commercial formalin, to make up an end dilution of 1/2,000, and the vaccine shaken daily for seven days, is an excellent protective in average doses of 1·5 c.c. and, if administered early in two or three successive doses, is curative.

Yours faithfully,
Z. Morcos, M.V.Sc., F.R.C.V.S., D.V.H.

Liverpool.
July 22nd, 1933.

ANNOUNCEMENT OF RETIRAL OF DR. REAKES

To the Editor of the Veterinary Record

Sir,—Some time ago there appeared in the *Record* a notice to the effect that Dr. Reakes, C.B.E., had retired from the position of Director-General of Agriculture, New Zealand.

It may interest your readers to know that the announcement was incorrect. It is the desire of the Government of New Zealand that, although according to age limit Dr. Reakes is due to retire, he may remain in the position he has so worthily filled for some time yet, and all his many friends hope he may enjoy health to do so.

Yours faithfully,
T. D. Young.

"Sussex House,"
Howard Road,
South Norwood, S.E.25.

* * * * *

V.M.A. OF IRELAND MEETING: A CORRECTION

To the Editor of the Veterinary Record

Sir,—In the report of the General Meeting of the Veterinary Medical Association which appeared in the *Record* of July 1st, the title of one of the Practical Demonstrations was given as "Castration of Pig" instead of "Castration of Rig." The slip was probably due to a printer's error, but I would be glad if you would publish this letter, as otherwise members who were not present would have cause for wondering why such a simple operation as the castration of a pig was selected for demonstration purposes.

Yours truly,
J. J. O'Connor.
Hon. Secretary.

Veterinary Medical Association of Ireland.
July 19th, 1933.

The Editor acknowledges, with thanks, the receipt of the following:—

Communications from Messrs. E. P. Barrett (Margate) and A. Spicer (Watford).

Diseases of Animals Acts, 1894 to 1927
SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic§ Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked.	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks reported by the Local Authorities.	Animals attacked.	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 1st to 15th July 1933	2	3	—	—	3	3	6	51	35
Corresponding period in									
1932	13	13	—	—	4	4	2	44	25
1931	15	17	9	1,194	6	6	4	83	42
1930	12	16	—	—	11	18	2	92	50
Total 1st January to 15th July, 1933	163	184	56	5,350	100	175	210	883	518
Corresponding period in									
1932	234	289	3	358	83	142	133	1,101	529
1931	295	315	74	8,237	94	160	185	1,149	486
1930	233	251	—	—	153	230	258	1,479	602

Note.—The figures for the current year are approximate only. § Excluding outbreaks in Army Horses.